
DESIGN SPECIFICATIONS

HAZELWOOD INTERIM STORAGE SITE (HISS) – MAIN PILE REMOVAL ACTION – PHASE 1

ST. LOUIS, MISSOURI

SOLICITATION NO. DACW43-01-R-0701

**This solicitation is subject to Section 8(a) of the Small
Business Act.**

OCTOBER 2000



**U.S. Army Corps of Engineers
St. Louis District Office
Formerly Utilized Sites Remedial Action Program**

BLANK PAGE

Table of Contents

Contract Requirements

Cover	
Standard Form 33	Solicitation, Offer and Award
Section B	Supplies or Services and Prices/Costs
Section C	Description/Specs./Work Statement
Submittal Registers for Section 01330	
Section E	Inspection and Acceptance
Section F	Deliveries or Performance
Section H	Special Contract Requirements
Section I	Contract Clauses
Section J	List of Attachments
Wage Determination 94-2309	
Design Authentication	
Section K	Representations, Certifications and Other Statements of Offerors
Section L	Instructions, Conditions, & Notices to Offerors

SOLICITATION, OFFER AND AWARD			1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING	PAGE OF PAGES 1 1	
2. CONTRACT NO.		3. SOLICITATION NO. DACW43-01-R-0701		4. TYPE OF SOLICITATION [] SEALED BID (IFB) [X] NEGOTIATED (RFP)	5. DATE ISSUED 01 Nov 2000	6. REQUISITION/PURCHASE NO. W81C8X-0290-6560	
7. ISSUED BY CONTRACTING DIVISION USARMY ENGR DIST ST LOUIS 1222 SPRUCE ST, RM 4.207 ST LOUIS, MO 63103-2833			CODE DACW43	8. ADDRESS OFFER TO (If other than Item 7) CODE See Item 7			
NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder"							
SOLICITATION							
9. Sealed offers in original and 1 _____ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in _____ until _____ local time _____ (Hour) (Date)							
CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.							
10. FOR INFORMATION CALL:		A. NAME JO ANN C. MORITZ		B. TELEPHONE (Include area code)(NO COLLECT CALLS) 314-331-8507		C. E-MAIL ADDRESS Joann.C.Moritz@mvs02.usace.army.mil	
11. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION		PAGE(S)	(X)	SEC.	DESCRIPTION
PART I - THE SCHEDULE					PART II - CONTRACT CLAUSES		
X	A	SOLICITATION/ CONTRACT FORM		1	X	I	CONTRACT CLAUSES
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS		1	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS		
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT		99	X	J	LIST OF ATTACHMENTS
	D	PACKAGING AND MARKING			PART IV - REPRESENTATIONS AND INSTRUCTIONS		
X	E	INSPECTION AND ACCEPTANCE		1	X	K	REPRESENTATIONS, CERTIFICATIONS AND
X	F	DELIVERIES OR PERFORMANCE		1			OTHER STATEMENTS OF OFFERORS
	G	CONTRACT ADMINISTRATION DATA			X	L	INSTRS., CONDS., AND NOTICES TO OFFERORS
X	H	SPECIAL CONTRACT REQUIREMENTS		11		M	EVALUATION FACTORS FOR AWARD
OFFER (Must be fully completed by offeror)							
NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.							
12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.							
13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)							
14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):				AMENDMENT NO.		DATE	
15A. NAME AND ADDRESS OF OFFEROR		CODE	FACILITY		16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)		
15B. TELEPHONE NO (Include area code)		15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. <input type="checkbox"/>			17. SIGNATURE		18. OFFER DATE
AWARD (To be completed by Government)							
19. ACCEPTED AS TO ITEMS NUMBERED		20. AMOUNT		21. ACCOUNTING AND APPROPRIATION			
22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304(c)() <input type="checkbox"/> 41 U.S.C. 253(c)()				23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)		ITEM	
24. ADMINISTERED BY (If other than Item 7)		CODE	25. PAYMENT WILL BE MADE BY		CODE		
26. NAME OF CONTRACTING OFFICER (Type or print)				27. UNITED STATES OF AMERICA (Signature of Contracting Officer)		28. AWARD DATE	
IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.							

SECTION B Supplies or Services and Prices

<u>ITEM NO</u>	<u>SUPPLIES/SERVICES</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
0001	Mobilization and Preparatory Work	1.00	Lump Sum	XXX	\$_____
0002	Monitoring, Sampling, Testing and Analysis	1.00	Lump Sum	XXX	\$_____
0003	Site Work	1.00	Lump Sum	XXX	\$_____
0004 thru 0007	NOT USED				
0008	Main Pile Removal	11,400.00	Cubic Yard	\$_____	\$_____
0009 thru 0018	NOT USED				
0019	Disposal - Rail Transportation	14,820.00	Cubic Yard	\$_____	\$_____
0020	Site Restoration	1.00	Lump Sum	XXX	\$_____
0021	Demobilization	1.00	Lump Sum	XXX	\$_____
TOTAL ABOVE ITEMS					\$_____

BLANK PAGE

BIDDING SCHEDULE NOTES

1. All quantities shown on the SUPPLIES OR SERVICES AND PRICE/COSTS are estimated quantities except when the unit is shown as Lump Sum.
2. The Item No. Descriptions coincide with the U.S. Army Corps of Engineers Work Breakdown Structure for Hazardous and Toxic Remediation Wastes (HTRW-WBS). Only those features anticipated to be required are used and listed.
3. MOBILIZATION AND PREPARATORY WORK, Item No. 0001, includes submittals and implementation plans, mobilization of personnel, facilities and construction equipment, setup and construction of temporary facilities, temporary utilities, required training and institutional controls.
 - a. Submittals and Implementation Plans includes all work associated with the preparation, review, and submittal of all required plans as designated in the Contract Documents and any local, state and federal permits.
 - b. Mobilization of Personnel includes relocation of supervisory personnel and workmen.
 - c. Mobilization of Construction Equipment includes preparation of equipment for transport, equipment transportation and setup, manifests, tolls, permits, escort vehicles, drivers and equipment operators.
 - d. Setup and Construction of Temporary Facilities includes preparation of the contractor laydown/storage area, the procurement, setup and construction of office trailers, emergency and decontamination facilities, access roads, facilities, staging areas and other temporary facilities.
 - e. Temporary Utilities are power and lighting, telephone, water, sewer and gas services to be in place only during this construction contract.
 - f. Required Training for Contractor Employees includes the training described in Section 01130 - ENVIRONMENTAL PROTECTION, Paragraph 3.8.
 - g. Institutional Controls include all measures required to protect the public health and safety, such as posting warning signs, placing fencing around the site, etc.
4. MONITORING, SAMPLING, TESTING AND ANALYSIS, Item No. 0002, includes two features:
 - (1) All equipment, labor and materials associated with executing the Safety, Health and Emergency Response (HTRW) plans required in SECTIONS 01130 and 01351; and (2) all such work in compliance with applicable regulations required to verify and ensure that the waste shipped for disposal meets the applicable, acceptance criteria established by Envirocare of Utah or another licensed disposal facility, as approved by the Contracting Officer or their representative.

5. SITEWORK, Item No. 0003, includes site preparation, site development and site maintenance associated with and required for the removal of the southern half of the Main Pile.
 - a. Site Preparation includes protection of monitoring wells, utilities and manholes and other associated activities.
 - b. Site Development includes all work to divert and collect storm and surface water flows, and to control erosion by means of the storm water and sediment control system, drainage ditching and swales, silt fencing, erosion matting, construction of berms to collect runoff, and other erosion control measures, as required.
 - c. Site Maintenance includes radiologically monitoring and maintenance of the Haul Road.
6. MAIN PILE REMOVAL, Item No. 0008, includes all work to completely remove and load the contaminated waste material, and liners and geonets by front-end loader, backhoe or other mechanical means to the railroad cars. This item shall also include all work to provide, remove and replace a tarp to protect the pile and all open/disturbed areas during removal activities.
7. DISPOSAL – RAIL TRANSPORTATION (COMMERCIAL), Item No. 0019, provides for the final placement of waste at third party commercial facilities that charge a fee to accept waste, and includes transportation to the final disposal facility. Disposal fees are not part of this contract. All work and costs involved with the transportation, by rail, to the disposal site are to be included in Item No. 0019, DISPOSAL - RAIL TRANSPORTATION, as further defined in the Measurement and Payment Clause.
8. SITE RESTORATION, Item No. 0020, includes installation of (new) separation/filtration geotextile material, the importation and placement of clean topsoil, fine grading, and revegetation.
9. DEMOBILIZATION, Item No. 0021, includes the takedown and removal of temporary facilities and utilities, the cleaning and decontamination of equipment, preparation of as-built drawings, and all activities for transporting equipment from the site.

Activity	Material Determination	Material Disposition	Payment
Removal of Main Pile (low-level contaminated soil)	none	All loaded	0008 – Main Pile Removal

END OF SECTION B

SECTION C Descriptions and Specifications

**SECTION C
TABLE OF CONTENTS**

SECTION 01010 – Summary of Work	3 Pages
SECTION 01025 – Measure and Payment	2 Pages
SECTION 01130 – Environmental Protection	8 Pages
SECTION 01330 – Submittal Procedures	4 Pages
SECTION 01351 – Safety, Health, and Environmental Response (HTRW)	40 Pages
SECTION 01440 – Contractor Quality Control	8 Pages
SECTION 01500 – Temporary Construction Activities	5 Pages
SECTION 01565 – Storm Water Pollution Prevention Measures	7 Pages
SECTION 02120 – Transportation of Hazardous Materials Requirements	12 Pages
SECTION 02221 – Soil Removal	4 Pages
SECTION 02272 – Separation/Filtration Geotextile4	3 Pages
SECTION 02935 – Sod	3 pages

BLANK PAGE

SECTION 01010**SUMMARY OF WORK****PART 1 GENERAL****1.1 SITE LOCATION**

The project location is at the Hazelwood Interim Storage Site (HISS), St. Louis County, Missouri. Location of the project is shown on the Location Map of the contract drawings.

1.2 WORK COVERED BY CONTRACT DOCUMENTS**1.2.1 Phases of Work**

Without intending to limit or restrict the extent of Work required, the Work generally comprises removal, transportation, and disposal of radiologically contaminated material located in the south half of the Main Pile, and engineering controls to control offsite spread of contamination from the HISS site.

1.2.2 Drawings

The following listed drawings accompany the technical specifications:

<u>Drawing No.</u>	<u>Drawing Title</u>
	Cover Sheet
G-1	Location Map and Index of Drawings
C-1	Existing Site Plan
C-2	Final Grading Plan
C-3	Cross Sections
C-4	Erosion Control and Miscellaneous Details

1.3 COORDINATION AND INTERFERENCES**1.3.1 Minor Interferences and Obstructions**

The drawings are generally indicative of the Work and as such cannot show actual field conditions. Measures shall be taken to address minor interferences with surface and subsurface obstructions as part of the Work.

1.3.2 Interfacing with Existing Site Conditions

- a. Site access control shall be maintained at all times to prevent unauthorized entry to Work areas and adjacent areas of the site that are accessible through the existing gate at Latty Ave.
- b. The Contractor shall provide proper signage and barricades when conducting Work in accordance with local, state, and federal requirements, or other authorities having jurisdiction.
- c. The Contractor is responsible for verifying actual location and grade as needed for this project. Problems shall be brought to the attention of the USACE.

1.4 REQUIREMENTS OF REGULATORY AGENCIES

The Contractor at all times shall observe and comply with all Federal and state laws and regulations, and local bylaws, ordinances and regulations in any matter affecting the conduct of the Work or applying to employees on the project, as well as safety precautions and orders or decrees which have been promulgated or enacted, or which may be promulgated or enacted, by legal bodies or tribunal having authority or jurisdiction over the Work, materials, equipment, or employees. The duty of enforcement of all said laws, or ordinances, regulations, orders or decrees lies with the body or agency promulgating them.

1.4.1 Utilities

If during execution of Work, telephone, electric, television cables, gas, oil, water, sewer or communication lines are encountered, no excavation shall be done around those lines without the presence of any authorized representative from the authority having jurisdiction.

1.5 CONTRACTOR USE OF SITE

The Contractor will have full access of the site designated on the Contract Drawings as being within "Contract Limits". All support facilities, trailers and staging areas required for completion of the Work shall be contained within the designated "Contract Limits".

1.6 COMMON ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
APP	Accident Prevention Plan
ARAR	Applicable or Relevant and Appropriate Requirements
ASTM	American Society for Testing and Materials
CERCLA	Comprehensive Environmental Response, Compensation, & Liability Act
CFR	Code of Federal Regulations
CHP	Certified Health Physicist
CIH	Certified Industrial Hygienist
CQC	Contractor's Quality Control
CY	Cubic Yard
DAC	Derived Air Concentration
EE/CA	Engineering Evaluation/Cost Analysis
EM	Engineering Manuals
EPA	Environmental Protection Agency
FIO	For Information Only
FUSRAP	Formerly Utilized Sites Remedial Action Program
GA	Government Approval
HISS	Hazelwood Interim Storage Site
HTRW	Hazardous, Toxic, and Radiological Wastes
MDNR	Missouri Department of Natural Resources
MSDS	Material Safety Data Sheets
NIOSH	National Institute for Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
OP	Occupational Physician
OSHA	Occupational Safety and Health Administration
O&M	Operations and Maintenance
PCi/g	picoCuries per gram
PDI	Pre-Design Investigation Report
POV	Privately-Owned Vehicle

PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act of 1976
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SZ	Support Zone
TDC	Transportation and Disposal Coordinator
TSD	Treatment, Storage, or Disposal
USACE	United States Army Corps of Engineers

PART 2 PRODUCTS

(Not Applicable)

PART 3 EXECUTION

(Not Applicable)

END OF SECTION 01010

BLANK PAGE

SECTION 01025**MEASUREMENT AND PAYMENT****PART 1 GENERAL****1.1 REFERENCES**

None.

1.2 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment; and performing any associated Contractor quality control; ensuring environmental protection; meeting safety requirements; conducting tests and reports; and performing all work required for which separate payment is not otherwise provided.

1.2.1 Mobilization and Demobilization

- a. Payment will be made for all costs associated with the mobilization and preparatory work bid item, including training costs, as specified in Section B, Note 3.
- b. Unit of measure – Lump Sum.

1.2.2 Monitoring, Sampling, Testing and Analysis

- a. Payment will be made for all costs associated with the monitoring, sampling, testing and analysis work, as specified in Section B, Note 4.
- b. Unit of measure – Lump Sum.

1.2.3 Site Work

- a. Payment will be made for all costs associated with the site work, as specified in Section B, Note 5.
- b. Unit of measure – Lump Sum.

1.2.4 Site Restoration

- a. Payment will be made for all costs associated with the site restoration, as specified in Section B, Note 8.
- b. Unit of measure – Lump Sum.

1.2.5 Demobilization

- a. Payment will be made for all costs associated with demobilization, as specified in Section B, Note 9.
- b. Unit of measure – Lump Sum.

1.3 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this Contractor on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

1.3.1 Main Pile Removal

- a. Payment – Payment will be made for all costs associated with the removal of waste from the south half of the Main Pile, as specified in SECTION 02221. The amount paid for will be the actual number of cubic yards of material, measured in its original position and removed from the pile, which is acceptably disposed of as herein specified. The measurement will not include the yardage removed without authorization or the yardage of any material not disposed of at Envirocare of Utah. The measurement will not include the amount of any removal performed prior to the taking of elevations and measurements of the undisturbed grade. The measurements will not include any grading or earthmoving required to construct temporary storage facilities or control drainage.
- b. Unit of Measure – cubic yard (in situ). The unit of measurement for removal will be in-place cubic yards, computed by the difference in topographic surveys taken by the Government before and after the removal of the Main Pile.

1.3.2 Disposal – Rail Transportation

- a. Payment – Payment will be made for all costs associated with the transportation of the waste. Disposal fees are not part of this contract. All work and costs involved with the transportation, by rail, to the disposal site are to be included in this item.
- b. Unit of Measure – Ex-situ cubic yards as measured in the rail cars.

PART 2 PRODUCTS

(Not Applicable)

PART 3 EXECUTION

(Not Applicable)

END OF SECTION 01025

SECTION 01130**ENVIRONMENTAL PROTECTION****PART 1 GENERAL****1.1 REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

Documents provided as attachments to Contract DACW43-00-C-0430, Supplemental Pile Removal, apply to this contract and will not be provided as attachments to this contract.

Code of Federal Regulations (CFR)

40 CFR Part 61	National Emission Standards for Hazardous Air Pollutants
40 CFR Part 82	Protection of Stratospheric Ozone *
40 CFR Part 110	Discharge of Oil *
40 CFR Part 112	Oil Pollution Control Program *
40 CFR Part 122	EPA Administered Programs: The NPDES
40 CFR Part 258	Criteria for Municipal Solid Waste Landfills
40 CFR Part 260	Hazardous Waste Management System: General *
40 CFR Part 261	Identification and Listing of Hazardous Waste *
40 CFR Part 262	Standards Applicable to Generators of Hazardous Waste *
40 CFR Part 273	Standards for Universal Waste Management
40 CFR Part 279	Standards for Management of Used Oil
40 CFR Part 302	Designation, Reportable Quantities, and Notification *
40 CFR Part 355	Emergency Planning and Notification
40 CFR Part 370	Hazardous Chemical Report: Community Right To Know
10 CFR 20 Appendix B, Table 2, Column 1 and 2	– Regarding Compliance with Dose Limits for Individual Members of the Public

* Only applicable or relevant and appropriate if specific chemical, action or de minimis levels of chemical require compliance.

State Requirements

NPDES Permit – MO-0111252

10 CSR 10-5.090	Restriction of Emission of Visible Air Contaminants
10 CSR 10-5.220	Control of Petroleum Liquid Storage, Loading and Transfer
10 CSR 10-6.170	Restriction of Particulate matter to the Ambient Air Beyond the Premises of Origin
10 CSR 20-6.200	Storm Water Regulations
10 CSR 20-7.031	Water Quality Standards
10 CSR 24	Hazardous Substance Emergency Response Office and Emergency Planning and Community Right to Know Act
10 CSR 25-11.279	Recycled Used Oil Management Standards
10 CSR 80	Solid Waste Management

Engineering Manuals (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
------------	---

Applicable Documents

FUSRAP Air Sampling, Handling and Analysis Instruction, Rev. 1 – SAFETY, HEALTH AND EMERGENCY RESPONSE)

“Sampling and Analysis Guide”, Draft, 1999 (SAG) – SAFETY, HEALTH AND EMERGENCY RESPONSE)

“Environmental Monitoring Implementation for the St. Louis Sites for FY00”, Dec. 1999 (EMIFY00)

“Data Management Process for the St. Louis FUSRAP Sites”, Draft, Jan. 2000 – SAFETY, HEALTH AND EMERGENCY RESPONSE)

1.2 DEFINITIONS

Environmental pollution and damage is defined as the presence of radiological, chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of plant or animal communities; or degrade the environment from aesthetic, cultural or historic perspective. Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants.

1.3 SUBMITTALS

Government approval is required for all submittals with a “GA” designation; submittals having and “FIO” designation are for information only. The following shall be submitted in accordance with Section 01330, Submittal Procedures:

SD-08 Statements

Protection of Features; FIO – Information to be included in this submittal is detailed in paragraph 1.4.1 below.

Environmental Protection Plan; GA – The Environmental Protection Plan shall contain the information as described in paragraph 1.5 of this section.

Stormwater and Sediment Control Plan; GA - The Storm Water and Sediment Control Plan shall contain the information as described in paragraph 1.5.6 and 3.6 of this section.

Waste Minimization Plan; GA – Information to be included in this submittal is defined in paragraph 1.5.3 of this section. This plan shall be submitted as part of the Waste Management Plan as described in Section 02120 - TRANSPORTATION OF HAZARDOUS MATERIALS.

Used Oil Management Procedure; GA – Information to be included in this submittal is listed in paragraph 3.1.5 of this section.

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall comply with all applicable Federal, State, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction. Safety and health documents and procedures for hazardous, toxic, and radioactive waste (HTRW) site activities are specified in Section 01351 – SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW).

1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. The Contractor shall prepare a list of features requiring protection under the provisions of the contract clause which are not specially identified on the drawings as environmental features requiring protection. The Contractor shall protect environmental features in spite of interference their preservation may cause to the Contractor's work under this Contract.

1.4.2 Permits

This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has already obtained environmental permits. The Contractor shall comply with the terms and conditions of these permits. The Contractor shall also comply with other environmental commitments made by the Government. The Contractor is responsible for acquiring and complying with the existing permit terms and conditions as well as those other commitments made by the Government.

1.4.3 Environmental Assessment of Contract Deviations

The Contract specifications have been prepared to comply with the special conditions and mitigation measures of an environmental nature which were established during the planning and development of this project. The Contractor is advised that deviations from the drawings or specifications (e.g., proposed alternate disposal areas, staging areas, alternate access routes, etc.) could result in the requirement for the Government to reanalyze the project from an environmental standpoint. Deviations from the construction methods and procedures indicated by the plans and specifications which may have an environmental impact will require an extended review, processing, and approval time by the Government. The Contracting Officer (or the designated representative) reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer or the designated representative determines that the proposed alternate method will have an adverse environmental impact.

1.5 ENVIRONMENTAL PROTECTION PLAN

Within 20 calendar days of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer or the designated representative. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan not later than 30 calendar days after receipt of the Notice to Proceed. Acceptance is conditional and is predicated upon satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes in the Environmental Protection Plan or operations if the Contracting Officer (or the designated representative) determines that environmental protection requirements are not being met. The plan shall detail the actions which the Contractor shall take to comply with all applicable or relevant and appropriate Federal, State, and local laws and regulations concerning environmental protection and pollution control and abatement, as well as the additional specific requirements of this contract. No physical work at the site shall begin prior to acceptance of the Contractor's plan or an interim plan covering the work to be performed. The Environmental Protection Plan shall include, but not be limited to, the information detailed below.

1.5.1 List of Federal, State and Local Laws and Regulations

The Contractor shall provide as part of the Environmental Protection Plan a list of all Federal, State and local environmental laws and regulations that apply to the construction operations under the Contract. This includes, but is not limited to, the ARARs listed in the HISS EE/CA and this specification. The plan should include details/procedures describing how the Contractor intends to comply with each respective ARAR.

1.5.2 Spill Control Plan

The Contractor shall include a Spill Control Plan as part of the Environmental Protection Plan. The plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by the Emergency Response and Community Right-to-Know Act, 40 CFR 110, Subchapter C, 40 CFR 302, SPCC Plan as specified in 40 CFR 112 (provided the Contractor stores the de minimis levels as cited in the regulation - otherwise the Contractor will prepare a spill response plan for oils as defined in 40 CFR 110 and 40 CFR 112), 10 CSR 24, or under State or local laws or regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

- a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.
- b. Training requirements for Contractor personnel and methods of accomplishing the training.
- c. A list of materials and equipment to be immediately available at the job site tailored to cleanup work of the potential hazard(s) identified.
- d. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
- e. The methods and procedures used for expeditious contaminant cleanup.
- f. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer or the designated representative in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a spill occurs. The plan shall contain a list of the required reporting channels and telephone numbers.

1.5.3 Waste Minimization Plan

The Contractor shall submit a Waste Minimization Plan as part of the Waste Management Plan required in Section 02120 – TRANSPORTATION OF HAZARDOUS MATERIALS. The plan shall detail the Contractor's action to comply with the following and waste minimization requirements:

- a. The Contractor shall demonstrate careful management of non-permeable covers to minimize the volume of potentially contaminated runoff that must be collected.
- b. Material Safety Data Sheets (MSDSs) will be evaluated prior to use onsite of any new hazardous chemical for potential waste management issues. Information regarding the quantity and intended use of the product may also be required.

1.5.4 Contaminant Prevention Plan

As a part of the Environmental Protection Plan, the Contractor shall prepare a contaminant prevention plan identifying potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, water, or ground. The Contractor shall detail provisions to be taken to meet Federal, State, and local laws and regulations regarding the storage and handling of these materials. This plan shall also be coordinated with the requirements of paragraph 1.5.2 of this section and Section 01351 –

SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW) relating to engineering controls for dust suppression and water management.

1.5.5 Environmental Monitoring Plan

As part of the Environmental Protection Plan, the Contractor shall prepare an Environmental Monitoring Plan identifying the details of environmental monitoring requirements under the laws and regulations and a description of how this monitoring will be accomplished. The Environmental Monitoring Plan must include information on the number of air monitors to be used, their location, the data collection schedule, how they will be powered, and how they will be maintained. This plan shall also detail how dust control will be accomplished during the removal action, including after hours. No visible dust will be allowed on the site at any time. This plan shall be coordinated with the requirements of Section 01351 – SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW) relating to ambient air monitoring and dust control. The Contractor shall perform work area perimeter air sampling (general area work zone perimeter) for airborne radionuclides using a minimum of three sampling locations and concentrations should be kept below the action levels as stated in Section 01351. If these action levels are exceeded, appropriate measures as described in the approved plan shall be taken. The monitoring will be conducted at all times during activities that may generate dust. These activities will include all heavy equipment use and loading of soil. Monitoring for air particulates, gamma radiation and radon is conducted at the site perimeter by others and another Contractor maintains the monitoring stations. The locations of the perimeter monitors are shown in Figure 3-1 of the EMIFY00. If monitoring that is done by others exceeds, or has the potential to exceed, the limits described in 10 CFR 20, Subpart B and 10 CFR 20.1101 the Contractor shall be required to take mitigative actions in the work zone.

The Contractor shall, at a minimum, locate monitors as described in this paragraph. The air particulate samples must be collected at the perimeter of the work zone. At least one air particulate sampler shall be upwind of the construction area and one shall be downwind. These air particulate samplers must be portable since they are subject to movement throughout operations when wind direction changes. Southerly winds predominate from May to November. Northwesterly winds predominate from December through April.

Refer to SECTION 01351 – SAFETY, HEALTH AND EMERGENCY RESPONSE for work area air particulate action levels.

1.5.6 Storm Water and Sediment Control Plan

The Contractor shall prepare and maintain on site a Storm Water and Sediment Control Plan as part of the Environmental Protection Plan. This plan shall be prepared using the requirements as contained in the Contract Drawings and Section 01565 – STORM WATER POLLUTION PREVENTION MEASURES of the contract specifications and in accordance with the requirements of the Missouri Department of Natural Resources relative to land disturbance activities and state requirements cited in paragraph 1.1 of this section, namely NPDES Permit MO-0111252, 10 CSR 20-6.010, and 10 CSR 20-7.031. NPDES Permit parameters are listed in Section 01565 – STORM WATER POLLUTION PREVENTION MEASURES. It is important to note that the current NPDES permit is under renewal and the Contractor will need to comply with any revisions to the permit.

PART 2 PRODUCTS

(Not Applicable)

PART 3 EXECUTION

3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 Top Soil

The Contractor shall bring topsoil onto the site from a source approved by the USACE to meet the requirements for final grade of the site as shown on the Contract Drawings (see Section 02221 – SOIL REMOVAL).

The Contractor shall be allowed to bring gravel onsite for haul roads as described in Section 01500 – TEMPORARY CONSTRUCTION.

3.1.2 Soil Disposal Areas on Government Property

Hazardous, toxic, and radiological wastes (HTRW) shall not be disposed of on Government property. Supporting documentation may be required as necessary to prove non-hazardous, non-toxic or non-radioactive wastes are disposed of properly.

3.1.3 Disposal of Solid Wastes

Solid waste is rubbish, debris, uncontaminated waste materials, garbage, and other discarded solid materials (excluding clearing debris and hazardous waste as defined in the following paragraphs). Solid waste shall be placed in containers and disposed of on a regular schedule. All handling and disposal shall be conducted in such a way as to prevent spillage and contamination. The Contractor shall transport or subcontract transportation of all solid waste off the work site and dispose of it in compliance with Federal, State and local requirements.

3.1.4 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are hazardous substances as defined in 40 CFR 261, or as defined by applicable State and local regulations. The Contractor shall evaluate and document the potential to generate a hazardous waste in their "Waste Minimization Plan". Management of potential hazardous wastes will be outlined in the "Waste Management Plan". In addition, all new chemicals arriving on site for use shall be evaluated for their potential to generate a hazardous waste. Hazardous waste generated as a result of the Contractor's operations shall be removed from the work area and be disposed in compliance with Federal, State, and local requirements. The Contractor shall segregate hazardous and radioactive waste from other materials and wastes in order to prevent the possibility of a mixed waste, and shall store it in accordance with all state and federal regulations (40 CFR 262, 40 CFR 264, and 10 CSR 25-7.264) as appropriate, and shall protect it from the weather by placing it in a safe covered location. Precautionary measures against accidental spillage such as berming or other appropriate measures shall be taken. Hazardous waste shall be removed from Government property within 60 days. Hazardous waste shall not be dumped onto the ground, into storm sewers or open watercourses, or into the sanitary sewer system. Refer to Section 02120 – TRANSPORTATION OF HAZARDOUS MATERIALS.

3.1.5 Fuels and Lubricants

Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 10 CSR 25-11.279, Federal, State, and local laws and regulations. No fueling or lubrication of equipment or motor vehicles shall be conducted on site except in the approved construction laydown area. Fueling stations shall meet the requirements of 10 CSR 10-5.220. The Contractor shall submit for approval a procedure outlining requirements which verify that oils,

fuels, lubricants, etc. used in construction equipment in the Contractor's work zone are not radioactively contaminated. The Contractor shall be responsible for the management and disposition of waste oil and used oil that is generated.

3.2 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

If during construction activities, items are observed that may have historic or archaeological value (e.g., Native American human remains or associated objects are discovered), such observations shall be reported immediately to the Contracting Officer (or the designated representative) so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. It is not anticipated that any items will be found during this removal action. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall prevent his employees from trespassing on, removing, or otherwise disturbing such resources.

3.3 PROTECTION OF WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters and protection of existing monitoring wells, air sampling stations, and NPDES monitoring locations.

3.3.1 Storm Water Runoff from Project Area

Storm water directly derived from Main Pile removal activities shall be collected and held as described in Section 01565 – STORMWATER POLLUTION PREVENTION MEASURES. The Contractor shall prevent any unmanaged releases from the site in addition to isolating runoff from active removal areas. The requirements of the NPDES permit must be met; therefore, the Contractor may be required to implement sediment controls as directed by the Contracting Officer (or the designated representative) if the possibility of exceeding a permit parameter exists.

3.4 PROTECTION OF AIR RESOURCES

Special management techniques as stated below shall be implemented to control air pollution created by construction activities to meet the requirements of 10 CFR 20. These techniques supplement the requirements of Federal, State, and local laws and regulations and the safety requirements under this Contract. The Contractor is required to meet the action levels in the work zone. These levels are stated in Section 01351 - SAFETY, HEALTH AND EMERGENCY RESPONSE.

3.4.1 Airborne Particulates

Airborne particulates, including dust particles, from construction activities and processing and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavation, stockpiles, haul roads, permanent and temporary access roads, and all other work areas free from visible airborne dust that would cause a hazard or nuisance by covering the piles and open excavation with a cover (see Section 02221 – SOIL REMOVAL) in order to comply with 10 CSR 10-5.090, 10 CSR 10-6.170 and the 10 CFR 20 air effluent concentration limits in Appendix B for occupational exposure and for exposure of members of the public outside the contractor's radiological restricted area. Water used as a dust suppression technique shall be managed according to Section 3.3 of this specification and in coordination with Section 01351 – SAFETY, HEALTH AND EMERGENCY RESPONSE.

3.5 INSPECTION

If the Contracting Officer (or the designated representative) notifies the Contractor in writing of any observed noncompliance with Contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall inform the Contracting Officer (or the designated representative) of proposed corrective action and take such action to correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer (or the designated representative) may issue an order stopping all or part of the work until satisfactory corrective action is taken. No time extensions will be granted or costs or damages allowed to the Contractor for any such suspension.

3.6 STORM WATER AND SEDIMENT CONTROL SYSTEM

The Contractor shall develop a stormwater and sediment control plan and provide it to the Contracting Officer or the designated representative prior to any land disturbance. The plan shall address the frequency of sediment removal from the collection system, management (i.e., disposal) of sediment collected in the system, and method of removal of the sediment during and upon completion of the Work. The plan shall comply with Federal, State, and local transport and disposal regulations. The Contractor is responsible for removal and disposal of sediment in accordance with the approved plan. Upon completion of the work, the Contractor shall remove sediments from the storm water and sediment control system before vacating the site. The Contractor shall meet the requirements in Section 02935 – TURF prior to removing the sediment and stormwater controls and vacating the site.

3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed pollution control facilities and portable pollution control devices for the duration of the Contract or for the length of time construction activities create the particular pollutant.

3.8 TRAINING OF CONTRACTOR PERSONNEL

The Contractor shall provide certification that Contractor personnel as a minimum have been trained as required by 29 CFR 1910 and 10 CFR 19. The contractor shall conduct environmental protection/pollution control training for all Contractor personnel to include topics such as methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities (vegetative covers, etc.), and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control. The Contractor shall readdress these topics each month at an environmental protection/pollution control meeting. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants shall also be discussed. Other items to be discussed shall include recognition and protection of archaeological sites and artifacts. If the Contractor stores oils as defined by 40 CFR 110 and 40 CFR 112 in the de minimis quantities outlined in 40 CFR 112, the Contractor shall meet the requirements outlined in 40 CFR 112, including certification that Contractor personnel have been trained as required in 40 CFR 112.21 – Facility Response Training and Drills/Exercises.

END OF SECTION 01130

SECTION 01330**SUBMITTAL PROCEDURES****PART 1 GENERAL****1.1 SUBMITTAL IDENTIFICATION**

Submittals required are identified by SD numbers as follows:

- SD-01 Data
- SD-04 Drawings
- SD-06 Instructions
- SD-07 Schedules
- SD-08 Statements
- SD-09 Reports
- SD-13 Certificates
- SD-14 Samples
- SD-18 Records
- SD-19 Operation and Maintenance Manuals

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Governmental Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer or the designated representative. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction" they are considered to be "shop drawings".

1.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.3 APPROVED SUBMITTALS

The Contracting Officer's or the designated representative's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error that may exist, as the Contractor under the Contractor's Quality Control (CQC) requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After the Contracting Officer or the designated representative has approved submittals, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer or the designated representative and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the

submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer or the designated representative.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS

(Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer or the designated representative may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the Contract Drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including, but not limited to, catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples, O&M Manuals (including parts lists); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby.

3.2 SUBMITTAL REGISTER (ENG Form 4288)

At the end of this section is one set of ENG Form 4288 listing for which submittals are required by the specifications. This list may not be all inclusive and additional submittals may be required. The Contractor will also be given the submittal register as a diskette containing the computerized ENG Form 4288 and instructions on the use of the files. The Government has completed columns "d" through "r". The Contractor shall complete columns "a" and "s" through "z" and submit the forms (hard copy plus associated electronic file) to the Contracting Officer or the designated representative for approval within 14 calendar days after Notice to Proceed. The Contractor shall keep this diskette up-to-date and shall submit it to the Government together with the monthly payment request. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall also be so scheduled. Adequate time (a minimum of 10 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

3.4 TRANSMITTAL FORM (ENG Form 4025)

The transmittal form (ENG Form 4025) shall be used for submitting both Government Approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the Contract Drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

Four (4) copies of submittals shall be submitted to:

Department of the Army
Corps of Engineers
Attn: FUSRAP HISS Main Pile
8945 Latty Ave.
St. Louis, Missouri 63134

3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register".

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. The Contracting Officer or the designated representative will retain two (2) copies of the submittal and two (2) copies of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer or the designated representative is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer or the designated representative from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR (firm name)	
_____	Approved
_____	Approved with corrections as noted on submittal data and/or attached sheet(s)
SIGNATURE:	_____
TITLE:	_____
DATE:	_____

END OF SECTION 01330

SECTION 01351**SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW)****PART 1 GENERAL****1.1 REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only.

American National Standards Institute (ANSI)

ANSI Z358.1	(1990) Emergency Eyewash and Shower Equipment
ANSI Z41	(1991) Protective Footwear
ANSI Z87.1	(1968) Eye Protection
ANSI Z89.1	(1968) Protective Headwear
ANSI Z308.1	(1978) Minimum Requirements for Industrial Unit Type First Aid Kits
ANSI 13.12	(1999) Surface and Volume Radioactivity Standards for Clearance

Code of Federal Regulations (CFR)

10 CFR 19	Notices, Instructions and Reports to Workers: Inspection and Investigation
10 CFR 20	Standards for Protection Against Radiation
29 CFR 1903	Inspections, Citations and Proposed Penalties
29 CFR 1904	Recording and Reporting Occupational Injuries and Illnesses
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Requirements for Construction
49 CFR 171	Hazardous Materials Transportation Regulations
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers – General Requirements for Shipments and Packaging
49 CFR 174	Carriage by Rail

Engineering Manuals (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual
EM 385-1-80	(1997) U.S. Army Corps of Engineers Radiation Protection Manual
ER 385-1-92	(2000) U.S. Army Corps of Engineers Safety and Occupational Health Document Requirements for HTRW Activities.

National Institute for Occupational Safety and Health (NIOSH)

NIOSH Pub No. 85-115	(1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities
----------------------	---

1.2 DESCRIPTION OF WORK

This section provides additional requirements for implementing the accident prevention provisions of EM 385-1-1, and specifies the development of a Site Safety and Health Plan (SSHP) that includes an appendix containing a separate Radiation Protection Plan (RPP) with Standard Operating Procedures (SOPs). The SSHP and RPP with SOPs shall satisfy the requirements for submission of a separate Accident Prevention Plan (APP) as required by EM 385-1-1. The requirements shall apply to work performed in both "contaminated" and "clean" areas.

1.3 SUBMITTALS

Government approval is required for all submittals with a “GA” designation; submittals having and “FIO” designation are for information only. The following shall be submitted in accordance with Section 01330 – SUBMITTAL PROCEDURES:

SD-04 Drawings

Work Zones; FIO – Drawings shall include initial work zone boundaries: Controlled Area (CA), including restricted and regulated areas; and Support Zone (SZ).

Decontamination Facilities; FIO – Drawings shall show the layout of the personnel and equipment decontamination areas.

SD-09 Reports

Monitoring/Sampling Results; FIO – The Contractor shall prepare and submit personnel exposure monitoring/sampling results in accordance with the FUSRAP Air Sampling, Handling and Analysis Instruction, the FUSRAP Internal Dosimetry Technical Basis Manual, the Sampling and Analysis Guide (SAG) and the Data Management Process Plan. All radiological air monitoring data collected by the Contractor shall be summarized and submitted for review by the 20th of each month for the preceding month’s monitoring. Results of personnel exposure monitoring shall be summarized and submitted within 15 days after receipt of data.

Site Control Log; FIO – The Contractor shall prepare and submit a record of each entry and exit into the site, as specified in 1.19.2 of this section.

Site Safety and Health Plan; GA – The Contractor shall prepare and submit for approval a SSHP and RPP with SOPs, as specified in this section. The Contractor shall prepare, as appendices to the SSHP, a Radiation Protection Plan as required by 10 CFR 20 Subpart B including standard operating procedures for implementation of the plan.

Meeting Minutes; FIO – The Contractor shall submit three (3) copies of safety meeting minutes within ten (10) working days of the meeting.

1.4 REGULATORY REQUIREMENTS

Work performed under this contract shall comply with EM 385-1-1, and applicable Federal, State, and local safety and occupational health laws and regulations. This includes, but is not limited to, Occupational Safety and Health Administration (OSHA) standards, 29 CFR, especially 29 CFR 1910.1096 and 1926.65, “Hazardous Waste Site Operations and Emergency Response”; and the Nuclear Regulatory Commission (NRC) regulations in 10 CFR 20. Matters of interpretation of standards shall be submitted to the appropriate administrative agency through the USACE for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements shall apply.

1.5 PRECONSTRUCTION SAFETY CONFERENCE

The Contractor shall document the minutes and attendees of the safety conference prior to field activities, and submit three (3) copies within ten (10) working days.

1.6 SAFETY AND HEALTH PROGRAM

OSHA Standard 29 CFR 1926.65(b) requires employers to develop and implement a written Safety and Health Program for employees involved in hazardous waste operations. The site-specific program

requirements of the OSHA Standards shall be integrated into one site-specific document, the Site Safety and Health Plan (SSHP). The SSHP shall interface with the employer's overall Safety and Health Program. Any portions of the overall Safety and Health Program that are referenced in the SSHP shall be included as appendices to the SSHP.

NRC regulation 10 CFR 20 requires employers to develop and implement a written Radiation Protection Program commensurate with the scope and extent of planned activities and sufficient to ensure compliance with the provisions of 10 CFR 20. The Contractor shall submit a Radiation Protection Program Plan (RPP) as an appendix to the SSHP. Radiation Protection standard operating procedures shall be included in the RPP.

1.7 SITE SAFETY AND HEALTH PLAN AND RADIATION PROTECTION PLAN

1.7.1 Preparation and Implementation

A Site Safety and Health Plan (SSHP) and Radiation Protection Plan (RPP) shall be prepared covering onsite work to be performed by the Contractor and all subcontractors. The Safety and Health Manager shall be responsible for the development, implementation and oversight of activities covered by the SSHP. The SSHP shall establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed. The SSHP shall address site-specific safety and health requirements and procedures based upon site-specific conditions. Anticipated chemicals (radiological and non-radiological) that may present occupational health and safety hazards should be identified. The level of detail provided in the SSHP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. Details about some activities may not be available when the initial SSHP is prepared and submitted. Therefore, the SSHP shall address, in as much detail as possible, anticipated tasks, their related hazards and anticipated control measures. Additional details shall be included in the activity hazard analyses as described in paragraph Activity Hazard Analyses. Additional guidance for completing the SSHP is provided in EM-385-1-1 and Appendix B of EM 385-1-92. Additional guidance for completing the RPP is provided in EM 385-1-80, EM 385-1-1, and the USACE St. Louis District FUSRAP Radiation Safety Manual.

1.7.2 Acceptance and Modifications

Prior to submittal, the SSHP shall be signed and dated by the Safety and Health Manager and the Site Superintendent. The SSHP must also be signed and dated by a CIH and a CHP (the Safety and Health Manager must be at least one of these disciplines.) The SSHP shall be submitted for review 14 days prior to the Pre-construction Safety Conference. Deficiencies in the SSHP and/or RPP will be discussed at the pre-construction safety conference, and the SSHP and/or RPP shall be revised to correct the deficiencies and resubmitted for acceptance. Onsite work shall not begin until the plans have been accepted by the USACE per paragraph 1.7.2.1 of this section. A copy of the written SSHP and associated RPP shall be maintained onsite. As work proceeds, the SSHP and associated RPP shall be adapted to new situations and new conditions. Changes and modifications to the accepted SSHP and/or RPP shall be made with the concurrence of the Safety and Health manager, the Site Superintendent, and the Contracting Officer (or the designated representative). Should any unforeseen hazard become evident during the performance of the work, the Site Safety and Health Officer (SSHO) shall bring such hazard to the attention of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer (or the designated representative), both verbally and in writing, for resolution as soon as possible. In the interim, necessary action shall be taken to re-establish and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Changes to the SSHP (including the RPP) shall be made (as applicable) to address the new hazard. Revised SSHP (or RPP) documents shall be approved in the same manner as the original document. Disregard for the provisions of this specification or the accepted SSHP (and associated RPP) shall be cause for issuing a "stop work order" until the matter has been rectified.

1.7.2.1 Approval of SSHP

The Contracting Officer (or the designated representative) will review the SSHP and associated RPP and return it to the Contractor with comments. The Contractor shall make the necessary changes required by the Contracting Officer (or the designated representative) and resubmit the SSHP and RPP for government concurrence. This procedure shall continue until the Contracting Officer (or the designated representative) gives final written concurrence. At that time, the Contractor shall indicate its commitment to following the SSHP and associated RPP by an affidavit signed by the site superintendent and company Safety and Health Manager. The Contractor shall not mobilize until it receives written approval of the SSHP and associated RPP and has signed the affidavit as required.

1.7.3 Availability

The SSHP (to include the RPP), SOPs implemented under the RPP, and all amendments and activity hazard analyses shall be made available in accordance with 29 CFR 1926.65 (b)(1)(v).

1.7.4 Elements

Topics required by 29 CFR 1926.65 (b)(4) and the Accident Prevention Plan as described in Appendix A of EM 385-1-1 and those described in this section shall be addressed in the SSHP. Where the use of a specific topic is not applicable to the project, the SSHP shall include a statement to justify its omission or reduced level of detail and establish that adequate consideration was given to the topic.

1.7.4.1 Plan Requirements

The SSHP shall include a description of the site-specific methods by which the Contractor will meet the safety and health requirements of OSHA standards 29 CFR 1926 (especially 1926.65), EM 385-1-1, EM 385-1-92, and these technical contract specifications. The SSHP will be considered to satisfy the requirements for a written Accident Prevention Plan if it incorporates the requirements of EM 385-1-1, Section 01.A, including activity hazard analyses.

The SSHP shall describe the safety and health procedures, practices, and equipment to be implemented and utilized in order to protect affected personnel from the potential hazards associated with the site-specific tasks to be performed. The level of detail provided in the SSHP shall be tailored to the type of work, complexity of operations to be accomplished, and the hazards anticipated. In all cases, however, all topics required by OSHA standards 29 CFR 1920.120(b)(4)/29 CFR 1926.65(b)(4) and those elements listed in Appendix B of 385-1-92 shall be addressed in the SSHP on a site-specific basis. Where use of a specific element is not applicable to the project, the Contractor shall provide a negative declaration to establish that adequate consideration was given to the topic and give a brief justification for its omission or reduced level of detail. The following outlines the required elements of the SSHP:

- a. Site description and contamination characterization
- b. Hazard/Risk analyses
- c. Staff Organization, qualifications, and responsibilities
- d. Training
- e. Personal protective equipment
- f. Medical surveillance
- g. Radiation dosimetry
- h. Exposure monitoring/Air Sampling Program
- i. Heat Stress/Cold Stress monitoring
- j. Standard operating procedures, engineering controls and work practices
- k. Site control measures
- l. Personal hygiene and decontamination
- m. Equipment decontamination
- n. Emergency equipment and first aid requirements

- o. Emergency response and contingency procedures
- p. Accident prevention
- q. Logs, reports, and recordkeeping

The RPP shall include a description of the radiation protection program and standard operating procedures that comply with the requirements of EM 385-1-1, EM 385-1-80, 10 CFR 19, and 10 CFR 20 and shall include the following (at a minimum):

- a. Occupational radiation dose limits for workers and members of the public
- b. External and internal monitoring and hazard controls
- c. Respiratory protection and controls
- d. Worker training requirements
- e. Radiological area posting requirements
- f. Container labeling requirements
- g. Procedures for receiving and opening packages of radioactive material
- h. Radioactive waste disposal
- i. Records requirements
- j. Reporting requirements

The standard operating procedures submitted with the RPP shall cover the following specific topics and shall be included as an appendix to the SSHP. These topics may be combined into a single procedure as long as all appropriate information is included in the one procedure.

- a. Respiratory Protection Program
- b. ALARA Program
- c. Quality Control of Radiation Monitoring Equipment
- d. Issuance, Use, and Termination of Personal Dosimetry
- e. Internal Dosimetry and Bioassay Sampling
- f. Radiation Work Permits
- g. Restricted Area Posting and Controls
- h. Control of Airborne Radiation Exposure
- i. Proper Selection and Use of Protective Clothing and Equipment
- j. Operation of Portable Radiation Monitoring Instruments
- k. Contamination Control
- l. Receipt and Transfer of Radioactive Material
- m. Radiological Incident and Deficiency Reporting
- n. Personnel Decontamination
- o. Operational (e.g., personnel, area, equipment) and Transportation Radiological Survey Requirements
- p. Transportation of Radioactive Materials
- q. Radioactive Source Inventory, Accountability, and Leak Testing
- r. Equipment Decontamination

1.8 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

1.8.1 Project/Site Conditions

The following information is a record of site contaminants and a description of the site. This information is provided to assist in preparation of the SSHP.

1.8.1.1 Site Information

Site information and characterization of the Main Pile material is contained in the Pre-Design Investigation Report for the Hazelwood Interim Storage Site (HISS) – Main Pile Removal Action (PDI). The PDI will be provided to the Contractor.

1.8.1.2 List of Available Documents

- Hazelwood Interim Storage Site (HISS) Site Storage Piles Characterization Report, USACE, 1998
- Engineering Evaluation/Cost Analysis (EE/CA) for Hazelwood Interim Storage Site, Final USACE, May 1998.
- St. Louis FUSRAP Internal Dosimetry Technical Basis Manual, February 2000
- FUSRAP Air Sampling, Handling and Analysis Instruction
- Draft Sampling and Analysis Guide
- Data Management Process Plan

1.8.2 Plan Requirements

The SSHP shall include a site description and contamination characterization section that addresses the following elements:

- a. Description of site location, topography, size and past uses of the site.
- b. A list of contaminants that may present occupational health and safety hazards. This list shall be created by evaluating the analytical results and by researching sources of information from past site investigation activities. Chemical names, radioisotopes, concentration ranges, and strength of radiation fields and levels of radioactive contamination, media in which found, locations onsite, and estimated quantities/volumes to be impacted by site work shall be included if known. The contamination characterization shall be reviewed and revised if new chemicals are identified as work progresses.

1.8.3 Ordnance and Explosive Waste (OEW)

It is not anticipated that the Contractor will contact OEW during the course of this work. If the Contractor encounters and must handle OEW, the Contractor shall follow all requirements as found in EM 385-1-1.

1.9 HAZARD/RISK ANALYSIS

The SSHP shall include a safety and health hazard/risk analysis for each site task and operation to be performed. The hazard/risk analysis shall provide information necessary for determining safety and health procedures, equipment, and training to protect onsite personnel, the environment, and the public. Available site information shall be reviewed when preparing the "Hazard/Risk Analysis" section of the SSHP. The elements below, at a minimum, shall be addressed.

1.9.1 Site Tasks and Operations

The overall scope of the project is the removal and disposal of the south half of the HISS Main Pile. This scope will be accomplished in several steps.

- a. Site mobilization and erosion control measures.
- b. Removal of the Main Pile as shown on the Contract Drawings.
- c. Placement of the removed material into rail cars parked along the rail spur and subsequent shipment.
- d. Transport of the removed material by rail to a disposal facility.
- e. Site restoration
- f. As-built documentation.
- g. Decontamination of equipment to be released for off-site use.
- h. Site demobilization.

This is not intended as a complete list of site tasks and operations; therefore, it shall be expanded and/or revised during preparation of the SSHP as necessary. The SSHP must address the hazards of all significant project tasks.

1.9.2 Hazards

The following potential hazards may be encountered during site work. These are not complete lists; therefore, they shall be expanded and/or revised as necessary during preparation of the SSHP.

1.9.2.1 Safety Hazards

Safety hazards that may be encountered during site work shall be addressed in the hazard/risk analysis of the SSHP. The hazards that may be encountered include, but are not limited to, housekeeping related accidents, heavy equipment operations, excavation activities, above ground utilities, electrical hazards, fire/explosions, and motor vehicles.

The SSHP must address task-specific hazard assessments and contain appropriate and sufficient hazard controls for these and other relevant physical hazards. As a minimum, controls will include safety shoes, safety glasses, hard hats, reflective safety vests (as appropriate), clearance of utilities (documented with the Field Safety Checklist located in SECTION 02221 – SOIL REMOVAL), proper fuel storage as required by EM 385-1-1, excavation in compliance with EM 385-1-1 Section 25, and heavy equipment use in compliance with EM 385-1-1 Section 16.

1.9.2.2 Chemical Hazards

Potential chemical hazards that may be encountered during site work are discussed in paragraph Site Description and Contamination Characterization. The Hazard/Risk Analysis section of the SSHP shall describe the chemical, physical, and toxicological properties of contaminants, sources and pathways of employee exposures, anticipated onsite and offsite exposure level potentials, and regulatory (including Federal, State, and local) or recommended protective exposure standards. The SSHP shall also address employee exposure to hazardous substances brought onsite, and shall comply with the requirements of 29 CFR 1926.59, Hazard Communication.

1.9.2.3 Physical Agents

Potential hazards from physical agents that may be encountered during site work shall be addressed in the Hazard/Risk Analysis section of the SSHP. The potential hazards to be addressed in the SSHP include occupational injury or illness from heat, cold, noise, vibration or other physical agents that may be presented by onsite activities.

The SSHP must address task specific hazard assessments and contain appropriate and sufficient hazard controls for these and other relevant physical hazards. As a minimum, controls will include safety shoes, safety glasses, hard hats, noise level monitoring, hearing protection (as appropriate), heat and cold stress monitoring and controls as required by EM 385-1-1 and 29 CFR 1926.

1.9.2.4 Radiological Hazards

Radionuclides present in the material to be handled are not anticipated to generate occupational doses in excess of occupational dose standards as long as proper engineering controls, administrative controls, and preventative controls are implemented, and personal protective equipment is used (see the risk and dose characterization in the October 1998 EE/CA for additional information). Contractors shall consider the dust generated by remedial action activities to be a potential internal radiological hazard for workers and members of the public. One of the primary exposure routes is expected to be inhalation. Contractors shall take precautions (i.e., water misting, minimizing soil drop heights, covering the pile, etc.) to keep dust levels as low as reasonably achievable.

The Contractor shall develop a RPP (as an appendix to the SSHP), which shall include radiological hazard controls, anticipated exposures, contamination control training requirements, exposure limits, and which shall comply with EM 385-1-1 Section 06.E and 10 CFR 20.

Worker Controls and Monitoring

The Contractor CHP shall evaluate potential exposures to employees due to workplace contaminants and planned contractor activities to determine if radiological (internal and external) monitoring is required in accordance with 10 CFR 20. The Contractor CHP shall submit the assessment and receive USACE concurrence with methodologies employed for the evaluation.

The Contractor is required to conduct internal monitoring of personnel likely to receive an occupational intake in excess of 10% of the Annual Limit on Intake (ALI) (i.e., 500 mrem/yr CEDE). The Contractor shall conduct confirmatory monitoring to monitor the occupational intake of radioactive materials by, and assess the committed effective dose equivalent (CEDE) to all workers that are likely to receive in excess of 2% of the Annual Limit on Intake (ALI) (i.e., 100 mrem/year).

Based on the distribution of radionuclides present in the HISS Main Pile and it's low Derived Air Concentration (DAC), Th-230 will be the most limiting radionuclide for an occupationally exposed worker or member of the public. Inhalation of particulate radionuclides is the major radiation safety concern during removal activities.

The RPP shall include a description of how worker exposures will be minimized through the use of engineering controls, administrative controls, and personnel protective equipment.

The Contractor shall demonstrate that an approved respiratory protection program is available and can be used if engineering controls do not reduce airborne concentrations to desired levels. Requirements of EM 385-1-1 Section 05.E and 06.E.07 and 10 CFR 20 Subpart H, "Respiratory Protection and Controls to Restrict Internal Exposure" must be followed.

It is not anticipated that Rn-222 gas (and its progeny) will be an exposure concern during the removal of the HISS Main Pile. However, if high soil concentrations of Ra-226 are encountered, personnel and general area radon/radon progeny monitoring may be required as outlined below.

The Contractor internal monitoring program shall meet the requirements contained in the FUSRAP Internal Dosimetry Technical Basis Manual. The program shall have the following elements (at a minimum):

Air Sampling Program

Air sampling provides the basis for assessment of thorium intakes as well as an early indication that loss of radiological control has occurred. It can also provide an early means of estimating inhalation intakes. A properly designed air sampling program is paramount in maintaining internal doses As Low As Reasonably Achievable (ALARA) and shifts the focus of internal dosimetry to prospective surveillance of the workplace.

The Contractor air sampling program shall consist of high volume particulate air samplers (general area), and lapel (breathing zone) air samplers to track worker exposure to particulate radionuclides and to determine if emission controls are sufficient. Air sampling for worker exposure inside the work area shall comply with 10 CFR 20, Subpart B. Exposures outside the work area shall comply with 10 CFR, Subpart D and 10 CFR 20.11.1. The air samples for assessment of occupational and general public exposure will be analyzed to meet 10% of the applicable limits in 10 CFR 20, Appendix B, except the higher limits may be proposed to USACE for general public exposures. Air sampling requirements can be found in the St. Louis FUSRAP Internal Dosimetry Technical Basis Manual. Guidance for collecting, submitting, handling, documenting, and analyzing particulate air samples for radionuclides is presented in the FUSRAP Air Sample Handling and Analysis Instruction, the Sampling and Analysis Guide (SAG), and the Data Management Process Plan. Five to ten percent of the air samples obtained will be submitted to the FUSRAP Laboratory as a Quality Assurance check on routine contractor analysis.

DAC-hr Tracking for Individual

DAC-hrs will be tracked for each worker based on the measured air concentrations and worker stay times. DAC-hrs will form the basis for assigning intake, Committed Effective Dose Equivalent, and Committed Dose Equivalent. DAC hour tracking requirements and dose assessment methodology can be found in the St. Louis FUSRAP Internal Dosimetry Technical Basis Manual. The Contractor may determine that monitoring is not required. If so, the Contractor shall document the evaluation in writing and submit it for USACE concurrence.

Bioassays

Bioassays will be used to supplement the air monitoring data for individuals. At a minimum, baseline and termination bioassays shall be required for all workers. Termination (exit) bioassays from another site (or employer) are acceptable for baseline bioassays at the St. Louis FUSRAP (or when changing from one contractor to another within the project) provided that the worker has not taken part in radiological work since the termination bioassay was submitted. The accumulation of DAC-hrs will form the basis for requiring "special" (non-routine) bioassays. FUSRAP bioassay requirements and dose assessment methodology can be found in the St. Louis FUSRAP Internal Dosimetry Technical Basis Manual. The Contractor may determine that monitoring is not required. If so, the Contractor shall document the evaluation in writing and submit it for USACE concurrence.

Radon and/or Radon Progeny Monitoring

Real time radon gas monitoring (measuring Rn-222 concentrations and/or working level meter monitoring (or equivalent) measuring Rn-222 progeny concentrations) may be necessary in general work areas to determine the radon concentrations (pCi/L) and radon working levels (WL) to which workers are exposed during remedial activities.

The Contractor's CHP will assess the potential dose and risk from radon exposure to workers and members of the public and will provide a radon monitoring plan based on this assessment for USACE concurrence.

External Radiation Monitoring

Monitoring for external exposure to gamma radiation is required if it is likely that a worker will be exposed in excess of 500 mrem/yr to sources of radiation external to the body. The Contractor shall perform confirmatory monitoring if it is likely that a worker will exceed 100 mrem/yr. External exposure monitoring may be accomplished using thermoluminescent dosimeters or electric dosimeters, if required. The Contractor may determine that monitoring is not required because doses are not likely to exceed 100 mrem/yr. If so, the Contractor shall document the evaluation in writing and submit it to the USACE for concurrence.

Radiation Work Permit (RWP)

A RWP (or equivalent) shall be developed for each Contractor activity. The RWP is the primary tool for ensuring ALARA objectives are incorporated into daily activities. The major emphasis of the program is for the proper planning of activities. This is accomplished by determining and documenting conditions in the work area and the control requirements such as engineering controls, respiratory protection, protective clothing, and dosimetry based upon current conditions in the work area, job scope, and historical information. The RWP shall be developed using information from the AHA that is required for each Contractor activity.

1.9.2.5 Biological Hazards

Potential biological hazards that may be encountered during site work shall be addressed in the Hazard/Risk Analysis section of the SSHP. The hazards that may be encountered include, but are not limited to, snakes, spiders, bees, ticks, and poison ivy. The SSHP must specify appropriate controls.

1.9.2.6 Weather Hazards

Potential weather hazards, such as lightning, hail, high winds, and tornadoes, which may be encountered during site work, shall be addressed in the Hazard/Risk Analysis section of the SSHP. The Contractor shall stop work as directed by the Contracting Officer or the designated representative, such as during precipitation events involving lightning. The SSHP must include plans for evacuation and sheltering from tornadoes/severe weather.

1.9.3 Action Levels

1.9.3.1 General

Action levels shall be established to control site hazards (radiological and non-radiological) and shall be established for the situations listed below, at a minimum. The action levels and required actions (engineering controls, changes in PPE, etc.) shall be presented in the SSHP in both text and tabular form.

- a. Implementation of engineering controls and work practices.
- b. Upgrade or downgrade in level of personal protective equipment.
- c. Work stoppage and/or emergency evacuation of onsite personnel.
- d. Prevention and/or minimization of public exposures to hazards created by site activities.

The SSHP, RPP, and/or Contractor procedures shall describe the technical approach for determining airborne concentrations and action levels and practices used to control and monitor worker exposure. The following action levels, as a minimum, will be followed. It is the Contractor's responsibility to modify these and establish additional action levels, as needed, to ensure adequate protection.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

Table 01351-3 ACTION LEVELS	
Level	Action
1 mg/m ³ total dust at work zone perimeter*	Stop work, take actions to improve dust suppression, such as application of water sprays, minimizing soil drop heights, and covering inactive portions of the pile.
Gross Alpha at the work zone perimeter, 1 E –13 µCi/ml Gross Beta at the work zone perimeter, 6 E –11 µCi/ml (Values based on the perimeter air effluent limit in 10 CFR 20 App. B Table 2 modeled back to center of the Main Pile. The modeling takes into account actual wind data taken from the National Climatic Data Center for St. Louis Lambert Airport)	Stop work, take actions to improve dust suppression, such as application of water sprays, minimizing soil drop heights, and covering inactive portions of the pile.
Airborne radioactivity in excess of Air Effluent Concentration limits specified in Appendix B (Table 2) of 10 CFR 20.	Stop work, take actions to improve dust suppression, such as application of water sprays, minimizing soil drop heights, and covering inactive portions of the pile.
Airborne radioactivity potentially greater than 5% DAC (ALARA Action Level)	Monitor representative personnel exposures using PAS pump. Assess control of airborne radioactivity.
Airborne radioactivity greater than 25% DAC	Post area as airborne radioactivity area, take action to suppress dust generation, consider respirator use
Employee exposure greater than 100% DAC	Assess controls, (control in accordance with 10 CFR 20, Subpart H)
Employee exposures to external sources of radiation likely to exceed 100 mrem/yr.	Monitor employee for external exposure with TLD or electronic dosimeter. Assess control of external exposures.
Employee intake of radioactive material likely to exceed 2% of the ALI (100 mrem/yr).	Monitor employee for internal exposure through air sampling and bioassay programs. Assess control of airborne radioactivity.
Detectable radiological contamination of personnel.	Decontamination of personnel, evaluate source of contamination
Contamination of equipment or materials greater than levels derived from ANSI 13.12 guidance or other USACE approved guidance.	Decontaminate to less than ANSI 13.12 (or other USACE approved guidance) derived levels or store and dispose of as radiologically contaminated.
Noise greater than 85 dBA TWA	Suitable hearing protection
Noise greater than 85 dBA TWA	Post area as noise hazard
Heat stress monitoring with employee temperature greater than 100.4 degrees F and pulse greater than 110 beats per minute.	Employee takes rest period and remonitor. If still above action level, take additional controls to cool employee, such as removal of PPE, showering, etc.
50% of the PEL for any other toxic atmospheric contaminant that may be present based on available information	Upgrade to appropriate respiratory and dermal protection as determined by the Contractor Health and Safety Manager.

* The Contractor will also compare total dust concentrations to airborne radionuclide sampling results to develop a site-specific total dust action level correlated to airborne radionuclide exposures.

1.9.3.2 Confined Space Entry

Entry into confined spaces is not expected. However, if the Contractor must enter a confined space the following action level is applicable in accordance with EM 385-1-1 Section 06.I Confined Space and 29 CFR 1910 Section .146 Permit-required confined spaces.

Entry into and work in a confined space will not be allowed when oxygen readings are less than 19.5% or greater than 23.5% or if the Lower Flammable Limit (LFL) reading is greater than 10%, unless these conditions are adequately addressed in the confined space entry program. In addition, action levels for toxic atmospheres shall be determined.

1.10 ACTIVITY HAZARD ANALYSIS

Prior to beginning each major phase of work, an Activity Hazard Analysis shall be prepared by the Contractor performing that work and submitted for review and acceptance. The format shall be in accordance with EM 385-1-1, figure 1-1. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform. The analysis shall define the activities to be performed and identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on that phase until the activity hazard analysis has been accepted and a preparatory meeting has been conducted by the Contractor to discuss its contents with everyone engaged in the activities, including the government onsite representatives. The activity hazard analyses shall be continuously reviewed and, when appropriate, modified to address changing site conditions or operations, with the concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer (or the designated representative). Activity Hazard Analyses for currently planned tasks shall be incorporated with the SSHP. Activity Hazard Analyses completed after acceptance of the SSHP shall be attached to and become part of the SSHP. The protocol for the addition of new Activity Hazard Analyses shall be delineated in the SSHP.

1.11 STAFF ORGANIZATION, QUALIFICATIONS, AND RESPONSIBILITIES

An organizational structure shall be developed that sets forth lines of authority (chain of command), responsibilities, and communication procedures concerning site safety, health, and emergency response. This organizational structure shall cover management, supervisors and employees of the Contractor and subcontractors. The structure shall include the means for coordinating and controlling work activities of subcontractors and suppliers. The SSHP shall include a description of this organizational structure as well as qualifications and responsibilities of each of the following individuals. The Contractor shall obtain acceptance from the Contracting Officer or the designated representative in concurrence with the District Safety Office Representative before replacing any member of the Safety and Health staff. Requests shall include the names, qualifications, training, duties, and responsibilities of each proposed replacement.

1.11.1 Site Superintendent

A Site Superintendent who has responsibility to implement the SSHP, the authority to direct work performed under this contract, and verify compliance shall be designated. The Site Superintendent shall have the minimum qualifications listed below. The name, qualifications, and documentation of experience shall be included in the SSHP.

- a. A minimum of three (3) years experience supervising similar projects that achieved satisfactory safety performance.
- b. A working knowledge of 29 CFR 1926, EM 385-1-1, and related requirements.

- c. Forty-hour training, three-day supervised field experience, and current eight-hour refresher training as required by 29 CFR 1926.65 (e)(3) and (e)(8).
- d. A minimum of eight (8) additional hours of documented training specifically addressing the requirements of the Contractor's Safety and Health Program and other topics, as required by 29 CFR 1926.65 (e)(4).

1.11.2 Safety and Health Manager

1.11.2.1 Qualifications

The Contractor's safety and health manager shall be a Certified Industrial Hygienist (certified by the American Board of Industrial Hygiene) or Certified Health Physicist (certified by the American Board of Health Physics). The name, qualifications (education summary and documentation, certificates), and work experience summary shall be included in the SSHP. The Safety and Health Manager shall have the following additional qualifications:

- a. A minimum of 3 years experience in developing and implementing safety and health programs at hazardous radioactive waste sites.
- b. Documented experience in supervising professional and technician level personnel.
- c. Documented experience in developing worker exposure assessment programs and air monitoring programs and techniques.
- d. Documented experience in the development of personal protective equipment programs, including programs for working in and around potentially toxic, flammable and combustible atmospheres, and radioactive material.
- e. Working knowledge of state, Federal, and USACE occupational safety and health regulations and requirements.
- f. Forty-hour safety training, three-day supervised field experience, and current eight-hour refresher training as required by 29 CFR 1926.65 (e)(4) and (e)(8).
- g. A minimum of eight additional hours of documented training specifically addressing the requirements of the Contractor's safety and health program and other topics, as required by 29 CFR 1926.65 (e)(4).

1.11.2.2 Responsibilities

The Safety and Health Manager shall:

- a. Be responsible for the development, implementation, oversight, and enforcement of the SSHP.
- b. Sign and date the SSHP prior to submittal.
- c. Conduct initial site-specific training.
- d. Be present onsite during the first 3 days of remedial activities and at the startup of each new major phase.
- e. Visit the site as needed and at least once per month for the duration of activities, to audit the effectiveness of the SSHP.
- f. Be available for emergencies.

- g. Provide onsite consultation as needed to ensure the SSHP is fully implemented.
- h. Coordinate any modifications to the SSHP with the Site Superintendent, the SSHO, the RSO, and the Contracting Officer (or the designated representative).
- i. Provide continued support for upgrading/downgrading the level of personal protection and/or personal protective equipment.
- j. Be responsible for evaluating air monitoring data and recommending changes to engineering controls, work practices, and PPE.
- k. Review accident reports and results of daily inspections.
- l. Serve as a member of the Contractor's quality control staff.

1.11.3 Site Safety and Health Officer (SSHO)

1.11.3.1 Qualifications of SSHO

An individual shall be designated the Site Safety and Health Officer (SSHO). The name, qualifications (education, training summary and documentation, certificates), and work experience of the Site Safety and Health Officer and alternate shall be included in the SSHP. The SSHO shall report to the Contractor Safety and Health Manager. The SSHO shall have no other duties than those related to health and safety. The SSHO can serve as the Radiation Safety Officer (RSO) as long as he/she meets the qualification standards for both. The SSHO shall have the following qualifications:

- a. A minimum of 2 years experience in implementing safety and health programs at hazardous and radioactive waste sites where Level C and Level D personal protective equipment was required.
- b. Documented experience in construction techniques and construction safety procedures.
- c. Working knowledge of Federal, state, and USACE occupational safety and health regulations and requirements.
- d. Specific training in personal and respiratory protective equipment program implementation and in the proper implementation of an air monitoring program to include radiological monitoring instruments, and air sampling methods.
- e. Forty-hour safety training, three-day supervised field experience, and current eight-hour refresher training as required by 29 CFR 1926.65 (e)(4) and (e)(8).
- f. A minimum of eight additional hours of documented training specifically addressing the requirements of the Contractor's safety and health program and other topics, as required by 29 CFR 1926.65 (e)(4).

1.11.3.2 Responsibilities of SSHO

The Site Safety and Health Officer shall:

- a. Assist and represent the Safety and Health Manager in onsite training and the day to day onsite implementation and enforcement of the accepted SSHP.
- b. Be assigned to the site on a full time basis for the duration of field activities. The SSHO shall have no duties other than Safety and Health related duties. The SSHO may perform the duties

of the RSO, if qualified, and if approved by the Contracting Officer (or the designated representative) in concurrence with the District Safety Office Representative and the District Radiation Safety Officer. If operations are performed during more than one work shift per day, a site Safety and Health Officer shall be present for each shift.

- c. Have authority to ensure site compliance with specified safety and health requirements, Federal, State, and OSHA regulations and all aspects of the SSHP including, but not limited to, activity hazard analyses, air monitoring, radiological monitoring, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, and preparation of records by performing a daily safety and health inspection and documenting results on the Daily Safety Inspection Log.
- d. Have authority to stop work if unacceptable health or safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.
- e. Consult with and coordinate any modifications to the SSHP with the Safety and Health Manager, the Site Superintendent, RSO, and the Contracting Officer (or the designated representative).
- f. Serve as a member of the Contractor's quality control staff on matters relating to safety and health.
- g. Conduct accident investigations and prepare accident reports.
- h. Review results of daily quality control inspections and document safety and health findings into the Daily Safety Inspection Log.
- i. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.
- j. Ensure that each worker signs the health and safety compliance policy statement and it is maintained on site.
- k. Review RWPs and approve other health and safety related permits.

1.11.4 Occupational Physician (OP)

1.11.4.1 Qualifications of OP

The services of a licensed physician, who is certified in occupational medicine by the American Board of Preventative Medicine, or who, by necessary training and experience is Board eligible, shall be utilized. The physician shall be familiar with this site's hazards and the scope of this project. The medical consultant's name, qualifications, and knowledge of the site's conditions and proposed activities shall be included in the SSHP.

1.11.4.2 Responsibilities of OP

The physician shall be responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1926.65 (f) and paragraph 1.14 – Medical Surveillance.

1.11.5 Persons Certified in First Aid and CPR

At least two persons who are currently certified in first aid and CPR by the American Red Cross or other approved agency shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910.1030. These persons may perform other duties but shall be immediately available to render first aid when needed.

1.11.6 Safety and Health Technicians

1.11.6.1 Lead Health Physics Technician (HPT)

In addition to the Radiation Safety Officer (RSO), the Contractor shall ensure there is a Lead HPT present during on site work to assure such work is performed safely and in full compliance with all radiological requirements.

1.11.6.1.1 Qualifications

The Lead HPT shall have the following minimum qualifications:

- a. Senior HPT I and II
- b. Seven years of documented applied on-the-job health physics technician experience or Registration with the National Registry of Radiation Protection Technologists (NRRPT)
- c. Meet training requirements specified in 1910.120e, HAZWOPER manager/supervisor training

1.11.6.1.2 Responsibilities

The responsibilities of the Lead HPT are described below:

- a. Implement the health physics program with only very general supervision.
- b. Supervise HP technicians
- c. Ensure that collected field data are reviewed for completeness and accuracy.
- d. Conduct without supervision, health physics surveys, inspections, and sampling.
- e. Perform tasks within applicable regulations, procedures, and guidelines.
- f. Review all work performed by HP personnel for soundness of technical judgment, accuracy, and completeness.
- g. Recommend procedural changes to improve working conditions, facilitate improvements to health physics and radiation protection procedures, and minimize the generation of radioactively contaminated waste.
- h. Make recommendation regarding the performance of work and the work environment to ensure doses to site workers and members of the general public are maintained as low as reasonably achievable (ALARA).
- i. Compile and maintain records regarding calibration of radiation and personnel monitoring instrumentation.
- j. Responsible for the direction and accuracy of all health physics activities performed by personnel working under their assigned tasks.

1.11.6.2 Senior Health Physics Technician I and II

The Contractor shall ensure that there are sufficient Senior HPTs present during on site work to assure such work is performed safely and in full compliance with all radiological requirements.

1.11.6.2.1 Qualifications, Senior HPT I

The Senior HPT I shall have the following minimum qualifications.

- a. High school diploma or equivalency
- b. Two years of college level training in health physics or an approved substitute and one year of directly related health physics experience qualifies an individual to serve as a Senior HPT.
- c. Junior Tech
- d. Three years of documented applied on-the-job health physics technician experience.
- e. A minimum of 80 hours of formal instruction in radiation safety fundamentals required to perform duties of the position.
- f. Successful completion of training required by 29 CFR 1910.120 and 10 CFR 19.

1.11.6.2.2 Responsibilities, Senior HPT I

The responsibilities of the Senior HPT I are described below.

- a. Conduct health physics surveys, inspections, and sampling.
- b. Recommend procedural changes to improve working conditions
- c. Facilitate improvements to health physics and radiation protection
- d. Minimize the generation of radioactively contaminated waste
- e. Make recommendations regarding the performance of work and the work environment to ensure doses to site workers and members of the general public comply with applicable standards and are maintained as low as reasonably achievable (ALARA).
- f. Compile and maintain records to include survey results and calibration of radiation and personnel monitoring instrumentation.
- g. Train other technicians as directed.
- h. Ensure that all subcontractor collected field data is complete and accurate.
- i. Perform shipping and receipt surveys of radioactive material
- j. Perform job coverage surveys and direct activities to ensure compliance with applicable regulations
- k. Perform and document personnel decontamination

1.11.6.2.3 Qualifications, Senior HPT II

The Senior HPT II shall have the following minimum qualifications.

- a. Senior HPT Tech I
- b. Five years of documented applied on-the-job health physics technician experience
- c. Registration with the National Registry of Radiation Protection Technologists (NRRPT)

1.11.6.2.4 Responsibilities, Senior HPT II

The responsibilities of the Senior HPT II are described below.

- a. Senior HPT Tech I
- b. Fulfill selected Lead Technician duties on an interim basis, as necessary.

1.11.6.3 Junior Health Physics Technicians (HPT)

The Contractor will provide junior HPTs as needed.

1.11.6.3.1 Qualifications

The junior HPT must meet the following minimum qualifications:

- a. High school education or equivalency
- b. Knowledge of health physics and site specific procedures
- c. Reading and comprehension level sufficient to follow procedures, prepare survey maps, and prepare shipping maps

- d. Work in a support role, including communicating verbal instructions to others
- e. Successful completion of training required by 29 CFR 1910.120 and 10 CFR 19
- f. Minimum of 20 hours of formal instruction in the radiation safety fundamentals required to perform duties of the position prior to being assigned as an HPT with a minimum of 20 additional hours per year.

1.11.6.3.2 Responsibilities

The junior HPT will function under the direct supervision of the RSO or a senior HPT to:

- a. Perform radiological surveys, post areas, and collect samples.
- b. Compile and maintain records regarding calibration of radiation and personnel monitoring instrumentation.
- c. Conduct routine radiation contamination and airborne radioactivity surveys.
- d. Establish protective barriers and post appropriate radiological signs, including the use of protective clothing and respiratory protection equipment.
- e. Perform operability checks on radiation monitors and survey meters.

1.11.7 Certified Health Physicist (CHP)

The services of a health physicist certified by the American Board of Health Physics shall be utilized in the preparation of the SSHP and as needed during the project. The CHP must have a minimum of 3 years experience in HTRW work. If the CHP is not the Contractor's Safety and Health manager he/she shall report to the Safety and Health Manager regarding issues associated with this project. If the CHP is also the Safety and Health Manager, he/she must meet all the minimum qualifications required at 1.11.2.1. The CHP will review the personnel monitoring results, air sampling results, and any assignment of internal exposure to verify the accuracy, and conduct all dose evaluations and risk assessments. The CHP shall also review and concur with the SSHP to include revisions thereto that involve radiation protection.

1.11.8 Certified Safety Professional (CSP)

The services of a safety professional certified by the Board of Certified Safety Professionals shall be utilized in the preparation of the SSHP and as needed during the project. The CSP must have a minimum of 3 years experience in HTRW work and shall report to the Safety and Health Manager regarding issues associated with this project.

1.11.9 Radiation Safety Officer (RSO)

1.11.9.1 Qualifications of RSO

An individual shall be designated the Radiation Safety Officer (RSO). The name, qualifications (education and training summary and documentation), and work experience of the RSO and alternate shall be included in the SSHP. The RSO shall report to the Contractor Safety and Health Manager. The RSO shall have the following qualifications:

- a. Bachelors degree in Health Physics or related field (equivalent education, training, and experience can be submitted for USACE concurrence in lieu of a bachelors degree for candidates that are otherwise qualified).
- b. A minimum of 3 years experience in implementing radiation protection programs at hazardous and radioactive waste sites with at least one year of experience being at a site or sites similar to the St. Louis FUSRAP HISS site. Equivalent experience accepted is at the discretion of the Contracting Officer (or the designated representative).

- c. Forty-hour safety training, three-day supervised field experience, and current eight-hour refresher training as required by 29 CFR 1926.65 (e)(4) and (e)(8).
- d. Working knowledge of Federal, state, and USACE radiation protection regulations and requirements.
- e. Specific training in personal and respiratory protective equipment program implementation, and in the proper use of radiological air monitoring to include radiological monitoring instruments, and air sampling methods.
- f. Eight additional hours of documented training specifically addressing the requirements of the Contractor's safety and health program and other topics, as required by 29 CFR 1926.65 (e)(4).

1.11.9.2 Responsibilities of RSO

The RSO shall:

- a. Assist and represent the Safety and Health Manager in onsite training and the day to day onsite implementation and enforcement of the accepted RPP.
- b. Be assigned to the site on a full time basis for the duration of field activities. The RSO can serve as the SSHO if qualifications for both are met and with approval by the Contracting Officer (or the designated representative) in concurrence with the District Safety Office Representative and the District Radiation Safety Officer.
- c. Have authority to ensure site compliance with specified radiation safety requirements, and all aspects of the RPP.
- d. Have authority to stop work if unacceptable radiation safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.
- e. Consult with and coordinate any modifications to the RPP with the Safety and Health Manager, the Site Superintendent, and the Contracting Officer (or the designated representative).
- f. Serve as a member of the Contractor's quality control staff on matters relating to radiation safety.
- g. Review results of daily quality control inspections and document radiation safety findings into the Daily Safety Inspection Log.
- h. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.
- i. Approve and issue RWPs.
- j. Provide technical oversight for health physics technicians.

1.12 TRAINING

Personnel shall receive training in accordance with the Contractor's written safety and health training program, EM 385-1-1 (06.E), 29 CFR 1926.65, 29 CFR 1926.21, 29 CFR 1910.120 and 10 CFR 19.12. The SSHP shall include a section describing training requirements.

1.12.1 General Hazardous Waste Operations Training

Personnel entering the controlled/contaminated areas of the site shall have successfully completed 40 hours of hazardous waste instruction off the site; 3 days of actual field experience under the direct

supervision of a trained, experienced supervisor; and 8 hours of refresher training annually. Onsite supervisors shall have completed the above training and 8 additional hours of specialized training covering at least the following topics: the employer's safety and health program, personal protective equipment program, spill containment program, and health hazard monitoring procedures and techniques. Copies of current training certification statements shall be submitted prior to initial entry onto the work site.

Personnel who enter areas where radioactive materials are present will be trained to meet the requirements of EM 385-1-1 Section 06.E and 10 CFR 19. This requirement may be met through documented onsite training or a combination of off-site and on-site training and shall include the following information, as a minimum:

- a. Information regarding the storage, transfer, or use of radiation and/or radioactive materials.
- b. Instruction regarding the health protection problems associated with exposure to radiation and/or radioactive materials.
- c. Information regarding precautions or procedures to minimize exposure, and in the purposed of the protective devices employed.
- d. Instruction of the requirements to observe, to the extent within the workers control, the applicable provisions of 10 CFR 20 and EM 385-1-1 from the protection of personnel from exposure to radiation and/or radioactive materials.
- e. Instruction of a worker's responsibility to report promptly any condition which may lead to or cause a violation of 10 CFR 20 regulations or EM 385-1-1 or unnecessary exposure to radiation and/or radioactive materials.
- f. Instruction with regard to the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material.
- g. Information concerning the radiation exposure reports which workers may request in accordance with 10 CFR 19.13.

1.12.2 Site-Specific Training

Site-specific training sessions shall be documented in accordance with Section 01.B.03.b of EM 385-1-1.

1.12.2.1 Initial Session (Pre-Entry Briefing)

Prior to commencement of onsite field activities, all site employees, including those assigned only to the Support Zone, shall attend a site-specific safety and health training session (site orientation) of at least 4 hours duration. This session shall be conducted by either the Safety and Health Manager, the Site Safety and Health Officer, or Radiation Safety Officer to ensure that all personnel are familiar with requirements and responsibilities for maintaining a safe and healthful work environment. Procedures and contents of the accepted SSHP, RPP, and Section 01.B.02 and 28.D.03 of EM 385-1-1 shall be thoroughly discussed. Each employee shall be required to sign a company health and safety policy statement to verify that all have been informed of the health and safety program. The Contracting Officer (or the designated representative) shall be notified at least 5 days prior to the initial site-specific training session so government personnel involved in the project may attend.

The initial onsite training must include, at least:

- a. Worker rights and responsibilities – including issues related to site radiological contamination.
- b. Names of site health and safety personnel and alternates.
- c. Contents of the project SSHP
- d. Hazards and symptoms of contaminant exposure
 - names of contaminants, primarily Th-230
 - exposure limits – regulatory, administrative, external/internal, surface contamination
 - monitoring – TLDs, ratemeters, survey instruments, air sampling, bioassays

- pregnancy concerns and regulations related to exposure to ionizing radiation
- e. Physical, biological, chemical, safety, radiological and weather hazards in the workplace.
- f. Hazards and symptoms of chemicals used on site
- g. Location and availability of written hazard communication program
- h. Site and task PPE (including purpose, donning, doffing, proper use)
- i. Safe work practices to minimize risks
- j. Site specific materials handling requirements
- k. Safe use of engineering controls and equipment
- l. Medical surveillance requirements
- m. Site control measures – restricted area access
- n. Reporting requirements for spills and emergencies
- o. PPE doffing and decontamination procedures to prevent the spread of radiological contamination
- p. Contingency plans (communications, phone numbers, emergency exits, assembly point, etc.)
- q. Hearing conservation (for noisy work if worker does not have documented hearing conservation training)
- r. Spill containment procedures (reporting, clean-up methods, etc.)
- s. Emergency equipment locations and use (fire extinguishers, eye wash, spill kits, etc.)

1.12.2.2 Periodic Sessions

Daily tailgate safety meetings shall be conducted and documented by the Contractor prior to commencing work each day. The training shall address safety and health procedures, work practices, any changes in the SSHP, activity hazard analyses, work tasks, or schedule; results of previous week's air monitoring, review of safety discrepancies and accidents. If an operational change that affects onsite fieldwork is made, a meeting will be held prior to implementation of the change to explain safety and health issues and procedures due to the change. Site-specific training sessions for new personnel, visitors, and suppliers shall be conducted by the SSHO using the training curriculum outlines developed by the Safety and Health Manager.

1.12.2.3 Other Training

1.12.2.3.1 DOT Training

Persons involved in any aspect of the transportation of hazardous materials shall be trained in accordance with 49 CFR 172 Subpart H. This applies specifically to the packaging and transport of waste from the site to the disposal facility as approved by the Contracting Officer (or the designated representative).

1.12.2.3.2 Respiratory Protection Training and Fit Testing

If the Contractor is required to provide and issue respirators, training and fit testing in accordance with 29 CFR 1910.134 and 10 CFR 20 is required. The Contractor shall train and fit test each employee who wears a respirator in accordance with the Contractor's Respiratory Protection Program. Fit tests shall be quantitative.

1.12.2.3.3 Lockout and Tagout Training

Persons involved with the service or maintenance of equipment or systems where the unexpected energizing, start up, or release of hazardous energy could occur and cause injury or damage shall be trained in Lockout/Tagout procedures in accordance with 29 CFR 1926.417 and EM 385-1-1 Section 12.

1.12.2.3.4 Fire Watch Training

Persons designated as a fire watch shall be trained by the Contractor. Training shall include site specific training on fire alarm initiation, and "hands on" training in the use of portable fire extinguishers.

Training shall also include proper selection, use, and application of extinguishing agents, characteristics and classifications of fires.

1.12.2.4 HP Technician Training

In addition to meeting the minimum requirements of Section 1.11.7 and 1.11.8, the Contractor shall certify that each HPT is trained, in writing (i.e., a qualification card), on each standard operating procedure they use to implement the requirements of the RPP. The qualification card shall be signed by the RSO or Safety and Health Manager. Individuals not certified on the Contractors SOPs are not authorized to perform functions detailed by SOPs.

1.13 PERSONAL PROTECTIVE EQUIPMENT

1.13.1 General

In accordance with 29 CFR 1926.65 (g)(5), a written Personal Protective Equipment (PPE) program which addresses the elements listed in that regulation, and which complies with respiratory protection program requirements of 29 CFR 1910.134 is to be included in the employer's Safety and Health Program. The Site Safety and Health Plan shall detail the minimum PPE requirements (including respirators) and specific materials from which the PPE components are constructed for each site-specific task and operation to be performed, based upon the hazard/risk analysis. Components of levels of protection (B, C, D, and modifications) must be relevant to site-specific conditions, including heat and cold stress potential and safety hazards. Only respirators approved by NIOSH shall be used. Onsite personnel shall be provided with appropriate personal protective equipment. Protective equipment and clothing shall be kept clean and well maintained. The PPE section of the SSHP shall include site-specific procedures to determine PPE program effectiveness and for onsite fit-testing of respirators, cleaning, maintenance, inspection, and storage of PPE.

1.13.2 Levels of Protection

The Safety and Health Manager shall establish appropriate levels of protection for each work activity based on review of historical site information, existing data, an evaluation of the potential for exposure (inhalation, dermal, ingestion, and injection) during each task, past air monitoring results, and a continuing safety and health monitoring program. The Safety and Health Manager shall also establish action levels for upgrade or downgrade in levels of PPE from the following specified minimum levels of protection. Protocols and the communication network for changing the level of protection shall be described in the SSHP. The PPE reassessment protocol shall address air monitoring results, potential for exposure, changes in site conditions, work phases, job tasks, weather, temperature extremes, individual medical considerations, etc.

1.13.2.1 Components of Levels of Protection

The following items constitute minimum protective clothing and equipment ensembles to be utilized during this project:

Level "D" PPE

Employees shall wear clothing suitable for the weather and work conditions. The minimum PPE for field work shall be:

Shirt with sleeves (EM 385-1-1 Section 5.A.07)

Long trousers (EM 385-1-1 Section 5.A.07)

Steel-toe Leather or protective work shoes or boots that meet the applicable requirements of ANSI Z41 - (EM 385-1-1 Section 5.A.07)

Reflective safety vests - (required for personnel exposed to vehicular or equipment traffic, including signal persons, spotters, inspectors, etc. - EM 385-1-1 Section 5.A.07)

Hardhat that meets the applicable requirements of ANSI Z89.1 – (required in construction areas and areas where there is a potential for injury to the head from falling objects)

Safety glasses with side shields that meet the applicable requirements of ANSI Z87.1 – (required when machines or operations present potential eye or face injury from physical, chemical, or radiation agents)

Hearing protection – (required in areas where personnel are exposed to sound levels equal to or greater than an 8-hr Time Weighted Average of 85 dB(A). Hearing protectors must reduce the employee's noise exposure below or equal to an 8-hr Time Weighted Average of 85 dB(A))

Gloves – (appropriate glove type is required when employees hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; chemical burns; thermal burns; and harmful temperature extremes)

Modified Level “D” PPE–

Level “D” PPE and

TYVEK Coveralls (Disposable)

Disposable boot covers or reusable overboots

Disposable inner gloves

Disposable outer gloves

NOTE: Glove type should be commensurate with hazard involved

Level “C” PPE –

Modified Level “D” PPE and an addition of full-face air purifying respirators equipped with cartridges appropriate for the anticipated hazard.

1.13.2.2 Initial Minimum Levels of PPE by Task

Based on available information, the initial minimum protective equipment requirements for each major task and operation are listed below. Available site information shall be reviewed and the list of tasks and operations and these levels of protection shall be expanded and/or revised during preparation of the SSHP. All equipment shall meet the specifications listed in Table 01351-4, OSHA Standards for Use of PPE.

The “Initial Level of Protection” is based on the assumption that during excavation the high activity materials will be mixed with surrounding lower activity materials lowering the airborne hazard and that the Contractor has procedures in place for determining work area airborne concentrations and has established action levels to control worker exposure.

Task/Operation	Initial Level of Protection
All Operations (non-contaminated areas)	D
Equipment Operation (contaminated areas)	Modified D ⁽¹⁾
Non-Intrusive work (contaminated areas)	Modified D ⁽¹⁾
Any task with potential for personal contamination	Modified D ⁽¹⁾

⁽¹⁾ It is not anticipated that any task will require respiratory protection. However, upgrade to level C may be required if engineering controls do not reduce airborne concentrations to desired levels.

REMAINDER OF PAGE INTENTIONALLY LEFT BLANK

Table 01351 – 4 OSHA STANDARDS FOR USE OF PPE		
TYPE OF PROTECTION	REGULATION	SOURCE
General	29 CFR Part 1926.95	41 CFR Part 50-204.7 General Requirements for Personal Protective Equipment
	29 CFR Part 1910.1000	41 CFR Part 50-204.50, except for table Z-2, the source of which is ANSI Z3 series (*)
	29 CFR Part 1926.1100-1152	OSHA Rulemaking
Eye and Face	29 CFR Part 1926.102	ANSI Z87.1 (*) Eye and Face Protection
Hearing Protection	29 CFR Part 1926.101	41 CFR Part 50-204.10 and OSHA Rulemaking
Respiratory Protection	29 CFR Part 1926.103	ANSI Z88.2 (*) Standard Practice for Respiratory Protection
Head Protection	29 CFR Part 1926.100	ANSI Z89.1 (*) Safety Requirement for Industrial Head Protection
Foot Protection	29 CFR Part 1926.96	ANSI Z41.1 (*) Men's Safety Toe Footwear
Electrical Protection	29 CFR Part 1926.416	ANSI Z9.4 (*) Men's Safe Practices Devices of Abrasive Blasting Operations
(*) = Latest Version		

1.13.3 PPE for Government Personnel

Clean sets of personal protective equipment and clothing (excluding safety shoes, which will be provided by individual visitors), as required for entry into controlled/restricted areas of the site, shall be available for use by the Contracting Officer (or the designated representative) or official visitors. Air-purifying negative-pressure respirators for use by the Contracting Officer (or the designated representative) or official visitor shall be cleaned, maintained and properly stored by the Contractor as necessary. The Contractor shall provide basic training in the use and limitations of the PPE provided and institute administrative controls to check prerequisites prior to issuance. Such prerequisites shall include minimum training requirements for the work tasks to be performed and medical clearance for site hazards and respirator use. The Contractor shall consult the construction division or resident area engineer for the number of sets of PPE for government personnel.

1.14 MEDICAL SURVEILLANCE

The Safety and Health Manager, in conjunction with the Occupational Physician, shall detail, in the employer's Safety and Health Program and the SSHP, the medical surveillance program that includes scheduling of examinations, certification of fitness for duty, compliance with OSHA requirements, and information provided to the physician. Examinations shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place. Medical surveillance protocols and examination and test results shall be reviewed by the Occupational Physician. The medical surveillance program shall contain the requirements specified below.

Personnel working in contaminated areas of the site shall have been examined as prescribed in 29 CFR 1926.65, and determined medically fit to perform their duties. Personnel required to wear respiratory protection shall have been examined as prescribed in EM 385-1-1 Section 05.E, 29 CFR 1926.103, and 29 CFR 1910.134 "Respiratory Protection".

1.14.1 Frequency of Examinations

Employees shall have been provided with medical examinations as specified, within the past 12 months and shall receive exams annually thereafter (if the contract exceeds one year); on termination of employment; reassignment in accordance 29 CFR 1926.65 (f)(3)(i)(C); if the employee develops signs or symptoms of illness related to workplace exposures; if the physician determines examinations need to be conducted more often than once a year; and when an employee develops a lost time injury or illness during the period of this contract. The supervisor shall be provided with a written statement signed by the physician prior to allowing the employee to return to the work site after a work related injury or illness resulting in a lost work day, as defined in 29 CFR 1904.12 (f).

1.14.2 Content of Examinations

The content of medical examinations or consultations made available to employees requiring medical surveillance in accordance with EM 385-1-1 Sections 28.A.06 and 05.E.04, 29 CFR 1926.65(f), 29 CFR 1926.103, and 29 CFR 1910.134 shall be determined by the attending physician. The attending physician should consult the guidelines in the *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* and may include the following elements. Additional elements may be included at the discretion of the occupational physician responsible for reviewing the medial surveillance protocols.

- a. Complete medical and occupational history (initial exam only).
- b. General physical examination of major organ systems.
- c. Pulmonary function testing including FVC and FEV1.0.
- d. CBC with differential.
- e. Blood chemistry screening profile (e.g. SMAC 20/25).
- f. Urinalysis with microscopic examination.
- g. Audiometric testing (as required by Hearing Conservation Program).
- h. Visual acuity.
- i. Chest x-ray. (This test should be performed no more frequently than every 4 years, unless directed by Occupational Physician).
- j. Electrocardiogram (as directed by Occupational Physician).

1.14.3 Information Provided to the Occupational Physician

The physician shall be furnished with the following:

- a. Information on representative sites and contaminants potentially encountered by the employees.
- b. Information on the employee's anticipated or measured exposure.

- c. A description of any PPE used or to be used.
- d. A description of the employee's duties as they relate to the employee's exposures (including physical demands on the employee and head/cold stress).
- e. A copy of 29 CFR 1926.65.
- f. Information from previous examinations not readily available to the examining physician.
- g. A copy of Section 5.0 of NIOSH Pub No. 85-115.
- h. Information required by 29 CFR 1926.134.

1.14.4 Physician's Written Opinion

Before work begins a copy of the physician's written opinion for each employee shall be obtained and furnished to the Safety and Health Manager and the employee. The physician's written opinion shall be provided as part of the Certificate of Work or Visitor Acknowledgement. The opinion shall address the employee's ability to perform hazardous remediation work and wear respirator protection (as applicable) and shall contain the following:

- a. The physician's recommended limitations upon the employee's assigned work and/or PPE usage.
- b. The physician's opinion about increased risk to the employee's health resulting from work.
- c. A statement that the employee has been informed and advised about the results of the examination.

1.14.5 Medical Records

Medical records shall be maintained by the employer in accordance with EM 385-1-1 Appendix K and 29 CFR 1926.65.

1.15 RADIATION DOSIMETRY (RADIATION PROTECTION REQUIREMENTS)

A radiation protection and dosimetry program shall be described in the RPP and implemented in accordance with 10 CFR 20. The Contractor shall perform and document a formal evaluation to determine if individual monitoring is required in accordance with 10 CFR 20.1502. Contractors should use NRC Regulatory Guide 8.34 for guidance on completing this evaluation. If the Contractor is not required to perform monitoring in accordance with 10 CFR 20, confirmatory radiological exposure monitoring shall be conducted for employees working within the radiologically restricted area that are likely to exceed 100 mrem/yr. If the formal evaluation concludes that external or internal exposure is not likely to exceed 100 mrem/yr, no monitoring is required. See Section 1.16 for minimum monitoring requirements.

Occupational Exposure Limits

Radiation exposure limits must be at least as protective as those in Table 01351-5 on the next page, except that the Contractor shall incorporate appropriate ALARA goals in the SSHP.

TABLE 01351-5 RADIATION EXPOSURE LIMITS ^a				
Effected Individual	Period	REM		
		Limit Per NRC	Administrative Control Levels ^b	Suggested ALARA Limits
Whole Body	Annual	5	0.5	0.1
Individual Organ	Annual	50	5	0.5
Lens of Eye	Annual	15	1.5	0.15
Skin	Annual	50	5	0.5
Declared Pregnant Radiation Worker	Gestation Period (9 Months)	0.5	0.5	0.04/month ^c

^a From EM 385-1-1 06.E.4 and EM 385-1-80

^b Exceedence requires written approval of RSO

^c Level set by USACE RPSO. EM 385-1-80, page 7-5, para. 7-3(d)(3)

The Contractor shall demonstrate compliance with the limits specified in Table 01351-5 by summing internal and external exposures (if monitoring for both is required). If the Contractor is only required to monitor for internal or external exposure summation is not required in order to demonstrate compliance with dose limits. The Contractor may demonstrate compliance with the requirements for summation of internal and external exposures by meeting one of the following conditions:

- a. If the only intake of radionuclides is by inhalation, the total effective dose equivalent (TEDE) limit is not exceeded if the sum of the deep dose equivalent (DDE) divided by the TEDE and one of the following does not exceed unity (1.0):
 - The sum of the fractions of the inhalation ALI for each radionuclide,
 - The total number of derived concentration hours (DAC-hrs) for all radionuclides divided by 2000, or
 - The sum of the calculated committed effective dose equivalents (CEDE) to all significantly irradiated organs or tissues calculated from bioassay data using appropriate biological models and expressed as a fraction of the annual limit
- b. If the occupationally exposed individual also receives an intake of radionuclides by oral ingestion greater than 10% of the oral ALI, then the Contractor shall account for this exposure and include it when demonstrating compliance with the annual limit.
- c. The Contractor shall evaluate and, to the extent practical, account for intakes through wounds or skin absorption.

Determination of Internal Exposure

Determination of internal exposure to demonstrate compliance with occupational dose equivalent limits shall be conducted in accordance with 10 CFR 20.1204 and as outlined in the FUSRAP Internal Dosimetry Technical Basis Manual.

1.15.1 Evaluation

An individual or company holding current personnel dosimetry accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) shall evaluate radiation dosimetry. Electronic dosimetry may be used to assign external dose if approved by the Contracting Officer (or the designated representative). A Certified Health Physicist shall determine internal radiation dose. Internal dose will

be determined primarily with measured air sample concentrations and worker stay times. Bioassay results will be used to supplement the air monitoring data.

1.15.2 Documentation

The Contractor shall maintain records of the radiation protection program, including the provisions of the program, audits and reviews of program content, and implementation of the program.

Records shall be maintained showing the results of surveys and calibrations in accordance with 10 CFR 20.2103.

If informal evaluation indicates radiological exposure monitoring is required in accordance with 10 CFR 20.1502, individual employee exposure records pertaining to internal and external radiation exposure monitoring shall be maintained in accordance with 10 CFR 20.2106. If monitoring is not required there are no requirements for maintaining individual employee exposure records.

The Contractor shall maintain records of exposure history in accordance with 20 CFR 20.2104 for all employees who are required to be monitored in accordance with 20 CFR 1502. If the employee has no exposure history, the employee shall provide a signed written statement to that effect.

1.15.3 Bioassay

Bioassays will supplement air-monitoring data for individual monitoring of internal radiation exposure. At a minimum, baseline and termination bioassays shall be required for all workers. Termination (exit) bioassays from another site (or employer) are acceptable for baseline bioassays at the St. Louis FUSRAP (or when changing from one contractor to another within the project). The accumulation of DAC-hrs will form the basis for requiring "special" (non-routine) bioassays. FUSRAP site bioassay requirements and dose assessment methodology can be found in the St. Louis FUSRAP Internal Dosimetry Technical Basis Manual. The Contractor may determine that internal monitoring is not required. If so, the Contractor shall document the evaluation in writing and submit to the USACE for concurrence.

1.15.4 Reporting

The reporting requirements of 10 CFR 20.2206 are applicable if radiation exposure monitoring is required under 10 CFR 20.1502. If monitoring is required, then reports of radiation exposure monitoring shall be furnished to the Contracting Officer (or the designated representative) as soon as available and to each employee annually, upon termination, and within 30 days after the results are received following any personal request in accordance with 10 CFR 19.13 and 10 CFR 20.2206.

The Contractor, at the request of a worker who is terminating employment with the Contractor that involved exposure to radiation or radioactive materials during the current calendar quarter or the current year, shall provide a written report regarding the radiation exposure received by the worker. If the most recent individual monitoring results are not available at that time, a written estimate of the exposure must be provided together with a clear indication that it is an estimate.

1.16 EXPOSURE MONITORING/AIR SAMPLING PROGRAM

The Safety and Health Manager shall prepare and implement an exposure monitoring/air sampling program to identify and quantify safety and health hazards and airborne levels of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment for affected site personnel. Available site information shall be reviewed and the exposure monitoring/air sampling program shall be submitted as part of the SSHP. As a minimum the following monitoring will be conducted.

Table 01351-6 MONITORING		
MONITORING	AREA	INTERVAL
Total dust	In areas where dust may be generated	Continuously during potential dust-generating activities
Temperature	In or near work area	At least twice daily to record approximate lowest and highest temperatures
Noise	Around heavy equipment and other areas with elevated noise levels	At project initiation and any time potential noise exposures change
Total organic vapor	In areas of known or suspected chemical contamination	There are no areas of known or suspected chemical contamination that would cause organic vapor concentrations at or above 5 ppm. Therefore, total organic vapor monitoring is not anticipated. However, organic vapor monitoring equipment shall be available in the event that conditions change.
Bioassay for internal radiological contamination	All workers within restricted areas likely to exceed 10% of the ALI listed in Appendix B of 10 CFR 20. Confirmatory monitoring is required for all workers or work areas when an individual is likely to exceed 100 mrem/yr CEDE.	Entrance, termination, and routine at a frequency specified by the Contractor CHP.
Removable surface contamination determined by smearing surface of 100cm ² .	All equipment and items removed from restricted areas	Each exit from controlled/restricted area. Routine surveys (i.e., outside the controlled area in offices, break rooms, etc.) at the discretion of the Contractor CHP.
Sampling for airborne radionuclides (as appropriate) Analysis MDA \leq 10% of Th-230 DAC	Breathing zone in areas of intrusive work and other areas with potential airborne radionuclides at $>5\%$ of the DAC. General area sampling in work areas.	Daily for at least one representative employee per job classification. Daily general area air samples shall be taken in the work area at a frequency specified by the Contractor CHP.
Radiological contamination with survey instrument.	Personnel and equipment at boundary of areas that are known or suspected to be radiologically contaminated	Upon exit from controlled/restricted areas
External ionizing radiation with TLDs (MDA \leq 10 mrem)	All workers within restricted areas likely to exceed 10% of the dose limits of 10 CFR 20.1201. Confirmatory monitoring is required for all workers or work areas when an individual is likely to exceed 100 mrem/yr DDE	Continuously when inside restricted areas where monitoring is required.
Real time radon gas and/or working level meters	Used in general work areas to determine exposure to radon	In areas where radium concentrations in soil exceed 500 pCi/g ^a . It is not anticipated that Ra-226 concentration will exceed 500 pCi/g therefore radon monitoring should not be necessary.

^a Action level derived in FUSRAP Technical Work Record "Determination of Radium 226 Soil Concentration Projected to Create Elevated Radon 222 Concentrations During Excavation at FUSRAP St. Louis."

1.17 HEAT AND COLD STRESS MONITORING

The Safety and Health Manager shall develop a heat stress and cold stress monitoring program for onsite activities. Details of the monitoring program, including schedules for work and rest, and physiological monitoring requirements, shall be described in the SSHP. Personnel shall be trained to recognize the symptoms of heat and cold stress. The SSHO and an alternate person shall be designated, in writing, to be responsible for the heat and cold stress monitoring program.

1.17.1 Heat Stress

Physiological monitoring shall commence when the ambient temperature is above 70 degrees F and protective clothing is required for the work activity. Monitoring may also be required for workers engaged in strenuous activity regardless of protective clothing requirements. Monitoring frequency shall increase as the ambient temperature increases or as slow recovery rates are observed. An adequate supply of cool drinking water shall be provided for the workers. NIOSH Pub No. 85-115 may be consulted for guidance in determining protocols for prevention of heat stress.

1.17.2 Cold Stress

To guard against cold injury, appropriate clothing and warm shelter for rest periods shall be provided. Procedures to monitor and avoid cold stress shall be followed in accordance with the current TLVs for Cold Stress as recommended in the ACGIH TLV booklet.

1.18 SAFETY PROCEDURES, ENGINEERING CONTROLS AND WORK PRACTICES

The SSHP shall describe the standard operating safety procedures, engineering controls, and safe work practices to be implemented for the work covered. These shall include, but are not limited to, the following:

1.18.1 General Site Rules/Prohibitions

General site rules/prohibitions (buddy system, eating, drinking, and smoking restrictions, etc.) shall be followed. Additional information and requirements, such as the levels of disciplinary action to be taken for breaking rules (e.g. verbal warning, written warning, termination, etc.), shall be included in the SSHP.

1.18.2 Work Permit Requirements

The Contractor shall be responsible for obtaining all required work permits potentially including, but not limited to, radioactive work, excavation clearance, and hot work.

1.18.3 Material Handling Procedures

The Contractor shall follow all project requirements as contained in the Specifications and Drawings; EM 385-1-1, Section 14 "Material Handling, Storage and Disposal" and Section 15 "Rigging"; and 29 CFR 1926 Subpart H "Materials Handling, Storage, Use, and Disposal". Procedures and precautions shall be included in the SSHP.

1.18.3.1 Spill and Discharge Control

The Contractor shall develop and implement written procedures for managing spill containment/cleanup and discharge control in accordance with all "Emergency Response" requirements. Refer to 1.23 Emergency Response and Contingency Procedures below. Procedures and precautions shall be included in the SSHP.

Temporary staging or storage of contaminated material or hazardous materials shall be appropriately bermed, diked and/or contained to prevent any spillage of material on uncontaminated soil. If the spill or discharge is reportable, and/or human health or the environment is threatened, the USACE SSHO and the Contracting Officer (or the designated representative) shall be notified as soon as possible. The Contractor shall also make all necessary notifications to the Nuclear Regulatory Commission (NRC) and the State.

1.18.3.2 Materials Transfer Safety

It is not expected that petroleum based liquids and residues will need to be removed from tanks. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements found in EM 385-1-1, and 29 CFR 1926. The underground storage tank removal process shall be in accordance with the procedures of American Petroleum Institute (API) Recommended Practice 1604, Removal and Disposal of Underground Petroleum Storage Tanks.

1.18.4 Drum and Container Handling

Handling drums and containers is not expected. In the event that the Contractor must handle hazardous, toxic, or radioactive waste drums or containers, the Contractor shall follow all requirements as contained in EM 385-1-1, Section 28.H "Handling Drums and Containers" and 29 CFR 1926.65 (j) "Handling drums and containers".

1.18.5 Confined Space Entry Procedures

Entrance into confined spaces is not expected. In the event that the Contractor must enter a confined space, the Contractor shall follow all requirements as contained in EM 385-1-1, Section 6.I "Confined Space"; and 29 CFR 1910.146 "Permit-required confined spaces".

1.18.6 Hot Work

Hot Work includes welding, cutting, grinding, sawing, or other similar operations that could be expected to potentially generate combustion-producing temperatures or sparks, or which could produce potentially hazardous fumes or vapors. Hot work is not expected. In the event that the Contractor must perform hot work, the Contractor shall follow all requirements as contained in EM 385-1-1 Section 10 "Welding and Cutting" and 29 CFR 1926 Subpart J "Welding and Cutting". Prior to conducting hot work, a hot work permit shall be prepared and submitted. An individual at each hot work site shall be designated and trained as a fire watch. This person's sole responsibility shall be to monitor the hot work and have immediate access to the fire extinguisher located at each hot work site. A new permit shall be obtained at the start of each work shift during which hot work will be conducted.

1.18.7 Ignition Sources

Refer to Section 01351 - 1.18.8 Fire Protection and Prevention

1.18.8 Fire Protection and Prevention

The Contractor shall follow all project requirements as contained in the Specifications and Drawings; EM 385-1-1 Section 9 "Fire Prevention and Protection"; and 29 CFR 1926 Subpart F "Fire Protection and Prevention". Procedures and precautions shall be included in the SSHP.

1.18.9 Electrical Safety

The Contractor shall follow all project requirements as contained in the Specifications and Drawings; EM 385-1-1 Section 11 "Electrical"; and 29 CFR 1926, Subpart K "Electrical". Procedures and precautions shall be included in the SSHP.

1.18.10 Excavation and Trench Safety

Procedures and precautions shall be included in the SSHP and shall be in accordance with the requirements of Section 02221 SOIL REMOVAL of these specifications. The Contractor shall utilize a formal process to avoid utilities. This process will be documented by completion of the Field Safety Checklist located in Section 02221 SOIL REMOVAL of these specifications.

1.18.11 Guarding of Machinery and Equipment

The Contractor shall follow all requirements as contained in EM 385-1-1 Section 16.B "Guarding and Safety Devices"; and 29 CFR 1910, Subpart O "Machinery and Machine Guarding". Procedures and precautions shall be included in the SSHP.

1.18.12 Lockout/Tagout

The Contractor shall follow all project requirements as contained in the Specifications and Drawings; EM 385-1-1 Section 12 "Control of Hazardous Energy (Lockout/Tagout)"; 29 CFR 1926.417 "The control of hazardous energy (lockout/tagout)". Procedures and precautions shall be included in the SSHP.

1.18.13 Fall Protection

The Contractor shall follow all project requirements as contained in the Specifications and Drawings; EM 385-1-1 Section 21.C "Personal Fall Protection Devices and Safety Nets"; and 29 CFR 1926 Subpart M "Fall Protection". Procedures and precautions shall be included in the SSHP.

1.18.14 Hazard Communication

Provide written procedures to meet the requirements of 29 CFR 1926.59 and EM 385-1-1 Sections 01.B.04, 06.B, and 08.A. Procedures and precautions shall be included in the SSHP.

1.18.15 Illumination

Outside operations will commence no earlier than 15 minutes after sunrise and conclude no later than 15 minutes prior to sunset. Since most activities will be conducted during daylight hours, field illumination measurements will not normally be required. However, if activities require outside work to be done at night, a minimum of 5 ft-candles will be required. Office areas will be illuminated at 50 ft-c or more. The Contractor shall ensure that minimum illumination intensities follow the requirements in 29 CFR 1926.56.

1.18.16 Sanitation

The Contractor shall provide the following as a minimum per EM 385-1-1 Section 2 and 29 CFR 1926.51:

- a. Means for washing hands and faces prior to eating or leaving the jobsite and after restroom use.
- b. Potable drinking water in a clearly marked, closed, sanitary container with a tap, sanitary cups, and a waste receptacle for used cups.
- c. Toilets according to the following:
 - ≤ 20 employees - 2 toilets
 - > 20 employees - 1 toilet seat and 1 urinal per 40 workers in addition to the two toilets noted above.

1.18.17 Engineering Controls

A dust suppression and water management plan shall be developed to minimize potential radiological exposure to workers and surrounding properties. The plan shall be submitted as part of the SSHP.

1.18.18 Process Safety Management

Work activities are not expected to require the application of process safety management. In the event that the Contractor must perform work activities requiring the application of process safety management, the Contractor shall follow all requirements in EM 385-1-1 and 29 CFR 1910.119.

1.18.19 Signs and Labels

In order to give adequate warning and caution of hazards and instruction and directions to workers and the public, the Contractor shall follow all sign, tag, and label requirements as found in EM 385-1-1 Section 8, 29 CFR 1926 Subpart G, and 10 CFR 20 Subpart J.

1.18.20 Waste Disposal

Refer to Section 02120 – TRANSPORTATION OF HAZARDOUS MATERIALS.

1.18.21 Tank Purging for Permit-Required Confined Space Entries

Tank Purging is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.18.22 Tank Inerting (No Entry)

Tank Inerting is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.18.23 Tank Atmosphere Testing

Tank Atmosphere Testing is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.18.23.1 Monitoring to Ensure Purging

Monitoring to Ensure Purging is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.18.23.2 Monitoring to Ensure Inerting

Monitoring to Ensure Inerting is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.18.24 Tank Lifting

Tank Lifting is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.18.25 Tank Demolition

Tank Demolition is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.18.26 Tank Cleaning

Tank Cleaning is not expected for this contract. In the event that the Contractor must perform this activity, the Contractor shall follow all applicable requirements in EM 385-1-1 and 29 CFR 1926.

1.19 SITE CONTROL MEASURES

In order to prevent the spread of contamination and control the flow of personnel, vehicles, and materials into and out of work areas, site control measures shall be established and described in the SSHP. The SSHP shall describe the methodology to be used by the Safety and Health Manager and SSHP in determining work zone designations and their modifications, and procedures to limit the spread of contamination. The SSHP shall include procedures for the implementation and enforcement of safety and health rules for all persons on the site, including employers, employees, outside Contractors, government representatives, and visitors. As a minimum, the Contractor shall establish and post restricted areas.

1.19.1 Work Zones

Initial anticipated work zone boundaries shall be shown on the Contractor's site plan. Utilizing this guidance, work zone boundaries (controlled areas, including restricted and regulated areas; and the support zone) and access points shall be established and the boundary delineations shall be included and in the SSHP. Radiological restricted areas will be designated and posted to preclude entry of unauthorized personnel. Delineation of work zone boundaries shall be based on the contamination characterization data and the hazard/risk analysis to be performed as described in paragraph: HAZARD/RISK ANALYSIS. Ingress/egress, decontamination and laydown/storage areas shall be shown on the Contractor's Site Plan. Modification can be made with approval of the Contracting Officer (or the designated representative). As work progresses and field conditions are monitored, work zone boundaries may be modified with approval of the Contracting Officer (or the designated representative). Work zones shall be clearly identified and marked in the field (using fences, tape, signs, etc.). A site map, showing work zone boundaries and locations of decontamination facilities, shall be posted in the onsite office and access control point to the restricted area. Work zones shall consist of the following:

Restricted Area: This is the area where hazardous contamination is either known or expected to occur and the greatest potential for exposure exists. Entry into, and exit from, this area shall be controlled by the Contractor.

Support Zone (SZ): The Support Zone is defined as areas of the site, other than controlled areas, where workers do not have the potential to be exposed to hazardous substances or dangerous conditions resulting from hazardous waste operations. The Support Zone shall be secured against active or passive contamination. Site offices, parking areas, and other support facilities shall be located in the Support Zone.

1.19.2 Site Control Log

A log of personnel visiting, entering, or working on the site shall be maintained. The log shall include the following: date, name, agency or company, time entering and exiting the controlled area (if applicable). Before visitors are allowed to enter the Controlled Area, they shall show proof of current training, medical surveillance and respirator fit testing (if respirators are required for the tasks to be performed) and shall fill out the Certificate of Worker or Visitor Acknowledgment. This visitor information, including date, shall be recorded in the log.

1.19.3 Communication

An employee alarm system that has adequate means of on and off site communication shall be provided and installed in accordance with 29 CFR 1910.165. The means of communication shall be able to be perceived above ambient noise or light levels by employees in the affected portions of the workplace. The signals shall be distinctive and recognizable as messages to evacuate or to perform critical operations. A description of the alarm system shall be included as part of the SSHP.

1.19.4 Site Security

The following site security shall be provided:

Traffic Barriers (Section 01500 – TEMPORARY CONSTRUCTION ACTIVITIES).

Signs shall be printed in bold large letters on contrasting backgrounds in English. Signs shall be visible from all points where entry might occur and at such distances from the controlled area that employees may read the signs and take necessary protective steps before entering. Signs shall meet requirements of 10 CFR 20 and EM 385-1-1.

1.20 PERSONAL HYGIENE AND DECONTAMINATION

Personnel entering the Controlled Area or otherwise exposed or subject to exposure to hazardous chemical vapors, liquids, or contaminated solids shall adhere to the following personal hygiene and decontamination provisions. Doffing of PPE shall be performed prior to entering the Support Zone from the Controlled Area and workers survey themselves for radioactive contamination. Chapter 10.0 of NIOSH Pub No. 85-115 shall be consulted when preparing decontamination procedures. A detailed discussion of personal hygiene and decontamination facilities and procedures to be followed by site workers shall be submitted as part of the SSHP. Employees shall be trained in the procedures and the procedures shall be enforced throughout site operations. Persons disregarding these provisions of the SSHP shall be barred from the site.

1.20.1 Personnel Decontamination Facilities

A personnel decontamination system shall be provided. Both Contractor personnel and government representatives shall use this system. As a minimum, the Contractor will provide a buffer area with marked locations for doffing PPE, an adhesive step-off pad, and provision for performing radiological surveys of personnel and equipment. The Contractor must also make provisions to decontaminate personnel who may become radiologically contaminated. Provision will also be made to allow personnel to wash their faces and hands prior to eating and drinking.

1.20.2 Procedures

Procedures for personnel decontamination shall be developed and utilized to prevent the spread of contamination out of the Controlled Area and to minimize the radiological impact of the contamination incident. These procedures will be submitted as part of the SSHP.

1.21 EQUIPMENT DECONTAMINATION

Vehicles and equipment used in areas of known or suspected contamination shall be decontaminated prior to leaving the site controlled area. The standard operating procedures (SOP) for decontamination of vehicles and equipment shall be addressed in the SSHP. Decontamination must meet the total surface activity requirements of ANSI 13.12-1999, "Surface and Volume Radioactivity Standards for Clearance" or other USACE approved guidance. For ALARA purposes, the Contractor shall not release equipment until the removable radioactive contamination levels are less than or equal to 20% of the

limits specified below, or other USACE approved guidance. Water used for decontamination must be managed in accordance with the Contractor's Environmental Protection Plan.

Table 01351-7 Surface Contamination Levels

Radionuclide Groups ^a	Screening Levels ^b	Surface Screening ^{bf}	Volume Screening ^b
	(Bq.cm ² or Bq/g) ^c	dpm/100 cm ²	pCi/g
Group 1: Radium, Thorium, and Transuranics: ²¹⁰ Po, ²¹⁰ Pb, ²²⁶ Ra, ²²⁸ Ra, ²²⁸ Th, ²³⁰ Th, ²³² Th, ²³⁷ Np, ²³⁹ Pu, ²⁴⁰ Pu, ²⁴¹ Am, ²⁴⁴ Cm, and associated decay chains ^(d) , and others ^(a)	0.1	600	3
Group 2 Uranium and Selected High Dose Beta Emitters: ²² Na, ⁵⁴ Mn, ⁵⁸ Co, ⁶⁰ Co, ⁶⁵ Zn, ⁹⁰ Sr, ⁹⁴ Nb, ¹⁰⁶ Ru, ^{110m} Ag, ¹²⁴ Sb, ¹³⁴ Cs, ¹³⁷ Cs, ¹⁵² Eu, ¹⁵⁴ Eu, ¹⁹² Ir, ²³⁴ U, ²³⁵ U, ²³⁸ U, natural uranium ^(e) , and others ^(a)	1.0	6,000	30
Group 3 General Beta-gamma Emitters: ²⁴ Na, ³⁶ Cl, ⁵⁹ Fe, ¹⁰⁹ Cd, ¹³¹ I, ¹²⁹ I, ¹⁴⁴ Ce, ¹⁹⁸ Au, ²⁴¹ Pu, and others ^(a)	10	60,000	300
Group 4 ^(f) Other Beta-gamma emitters: ³ H, ¹⁴ C, ³² P, ³⁵ S, ⁴⁵ Ca, ⁵¹ Cr, ⁵⁵ Fe, ⁶³ Ni, ⁸⁹ Sr, ⁹⁹ Tc, ¹¹¹ In, ¹²⁵ I, ¹⁴⁷ Pm, and others ^(a)	100	600,000	3,000

- (a) To determine the specific group for radionuclides not shown, a comparison of the effective dose factors, by exposure pathway, listed in Table A.1 of NCRP Report No. 1231 for radionuclides in question and the radionuclides in the general groups above shall be performed and a determination of the proper group made, based on similarity of the factors.
- (b) Rounded to one significant figure
- (c) The screening levels shown are used for either surface activity concentration (in units of Bq/cm²) or volume activity concentration (in units of Bq/g). These groupings were determined based on the similarity of the scenario modeling results, as described in Annex B.
- (d) For decay chains, the screening levels represent the total activity (i.e., the activity of the parent plus the activity of all progeny) present.
- (e) Where the natural uranium activity equals 48.9% from ²³⁸U, plus 48.9% from ²³⁴U, plus 2.25% from ²³⁵U.
- (f) Vehicles and equipment contamination levels exceeding these values will be decontaminated. Pursuant to ALARA, readily removable contamination will be reduced to levels not to exceed 20% of these values.

Radionuclides were assigned to groups that were protective at 10 uSv/yr (i.e., 1.0 mrem/yr) and were limited to 4 groups for ease of application, as discussed in Annex B.

NOTE: Because of the relatively high Th-230 concentrations in soils at HISS relative to other isotopes, the limits for Th-230 will apply to this removal action.

1.21.1 Equipment Decontamination Facilities

A vehicle/equipment decontamination station shall be provided for decontaminating vehicles and equipment. The decontamination station shall be consistent with the SSHP and labeled appropriately. The pad shall be constructed to capture decontamination water, including overspray, and shall allow for collection and removal of the decontamination water using sumps, dikes and ditches as required. Equipment within the controlled area shall be decontaminated before maintenance is performed and before leaving the site.

1.21.2 Procedures

Procedures for equipment decontamination shall be developed and utilized to prevent the spread of contamination. These procedures shall address disposal of contaminated products and spent materials used on the site, including containers, etc. The Contractor shall submit to the Contracting Officer (or the designated representative) for approval a procedure detailing the steps to take to ensure fluids and oils from potentially contaminated removal equipment are recyclable (i.e., not considered radiologically contaminated) to prevent managing as a "waste oil" under State of Missouri regulation, 10 CSR25-11.279. Construction material shall be handled in such a way as to minimize the potential for contaminants being spread and/or carried offsite. Prior to exiting a controlled area, vehicles and equipment shall be monitored for radiological contamination to ensure the adequacy of decontamination.

1.22 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

The SSHP shall describe the emergency and first aid equipment to be available onsite. The following items, as a minimum, shall be maintained onsite and available for immediate use:

- a. First aid equipment and supplies approved by the consulting physician and in accordance with EM 385-1-1 Section 3 and 29 CFR 1910.151. An example of the minimum requirements of a generic first aid kit is described in ANSI Z308.1-1978.
- b. Emergency eyewashes which comply with ANSI Z358.1.
- c. Fire extinguishers shall be provided at site facilities as specified in EM 385-1-1 Table 9-1 "Fire Extinguisher Distribution" and in all vehicles and at any other site locations where flammable or combustible materials present a fire risk. All fire protection requirements of EM 385-1-1 and 29 CFR 1926 must be met.

1.22.1 EMERGENCY EQUIPMENT AND FIRST AID KIT INSPECTIONS

The Contractor will inspect all emergency equipment and first aid kits in accordance with the requirements of EM 385-1-1, 29 CFR 1926, and manufacturer's instructions.

1.22.2 EMERGENCY EQUIPMENT TRAINING

The Contractor will train all personnel responsible for the handling and use of emergency equipment and first aid kits in accordance with the requirements of EM 385-1-1, 29 CFR 1926, and manufacturer's instructions.

1.23 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

An Emergency Response Plan that meets the requirements of EM 385-1-1 Section 28 J, "Emergency Response" and 29 CFR 1926.65(l) shall be developed and implemented as a section of the SSHP. In the event of any emergency associated with remedial action, the Contractor shall, without delay, alert all onsite employees that there is an emergency situation; take action to remove or otherwise minimize the cause of the emergency; alert the Contracting Officer (or the designated representative); and institute measures necessary to prevent repetition of the conditions or actions leading to, or resulting in, the emergency. The plan shall be reviewed regularly as part of the overall training program for site operations. The plan shall be reviewed periodically and revised as necessary to reflect new or changing site conditions or information. Copies of the accepted SSHP and revisions shall be provided to the affected local emergency response agencies. The following elements, as a minimum, shall be addressed in the plan:

- a. Pre-emergency planning. The local emergency response agencies shall be contacted and met with during preparation of the Emergency Response Plan. Agencies to be contacted include local fire, police, and rescue authorities with jurisdiction and nearby medical facilities that may be utilized for emergency treatment of injured personnel. The agencies shall be notified of upcoming site activities and potential emergency situations. The response agencies' capabilities shall be ascertained and written response commitments obtained. The Contractor shall ensure the Emergency Response Plan for the site is compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and Federal agencies.
- b. Personnel roles, lines of authority, communications for emergencies.
- c. Emergency recognition and prevention.
- d. Site topography, layout, and prevailing weather conditions.
- e. Criteria and procedures for site evacuation (emergency alerting procedures, employee alarm system, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, assembly areas, site security and control).
- f. Specific procedures for decontamination and medical treatment of injured personnel.
- g. Route maps to nearest pre-notified medical facility. Site-support vehicles shall be equipped with maps. At the beginning of project operations, drivers of the support vehicles shall become familiar with the emergency route and the travel time required.
- h. Emergency alerting and response procedures including posted instructions and a list of names and telephone numbers of emergency contacts (physician, nearby medical facility, fire and police departments, ambulance service, Federal, state, and local environmental agencies; as well as Safety and Health Manager, the Site Superintendent, the Contracting Officer and/or their alternates).
- i. Criteria for initiating community alert program, contacts, and responsibilities.
- j. Procedures for reporting incidents to appropriate government agencies. In the event that an incident such as an explosion or fire, or a spill or release of toxic materials occurs during the course of the project, the appropriate government agencies shall be immediately notified. In addition, the Contracting Officer (or the designated representative) shall be verbally notified immediately and receive a written notification within 24 hours. The report shall include the following items:

- (1) Name, organization, telephone number, and location of the Contractor.

- (2) Name and title of the person(s) reporting.
- (3) Date and time of the incident.
- (4) Location of the incident, i.e., site location, facility name.
- (5) Brief summary of the incident giving pertinent details including type of operation ongoing at the time of the incident.
- (6) Cause of the incident, if known.
- (7) Casualties (fatalities, disabling injuries).
- (8) Details of any existing chemical hazard or contamination.
- (9) Estimated property damage, if applicable.
- (10) Nature of damage, effect on contract schedule.
- (11) Action taken to ensure safety and security.
- (12) Other damage or injuries sustained, public or private.
- (13) Railcar number and concentrations as shown on the manifest document.

k. Procedures for critique of emergency responses and follow-up.

1.24 CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGEMENT

A copy of a Contractor-generated certificate of worker/visitor acknowledgement shall be completed and submitted for each employee and visitor allowed to enter restricted areas, following the example certificate at the end of this section.

1.25 INSPECTIONS

The SSHO shall perform daily inspections of the jobsite and the work in progress to ensure compliance with EM 385-1-1, the Safety and Health Program, the SSHP, RPP, and other occupational health and safety requirements of the contract, and to determine the effectiveness of the SSHP. Procedures for correcting deficiencies (including actions, timetable and responsibilities) shall be described in the SSHP. Follow-up inspections to ensure correction of deficiencies shall be conducted and documented. Daily safety inspection logs shall be used to document the inspections, noting safety and health deficiencies, deficiencies in the effectiveness of the SSHP and RPP, and corrective actions taken. The SSHO's Daily Inspection Logs shall be attached to and submitted with the Daily Quality Control reports. Each entry shall include the following: date, work area checked, employees present in work area, PPE and work equipment being used in each area, special safety and health issues and notes, and signature of preparer. In the event of an accident, the Contracting Officer (or the designated representative) shall be notified according to EM 385-1-1. Within 2 working days of any reportable accident, an Accident Report shall be completed on ENG Form 3394 and submitted.

1.26 SAFETY AND HEALTH PHASE-OUT REPORT

A Safety and Health Phase-Out Report shall be submitted within 10 working days following completion of the work, prior to final acceptance of the work. The following minimum information shall be included:

- a. Summary of the overall performance of safety and health (accidents or incidents including near misses, unusual events, lessons learned, etc.).

- b. Final decontamination documentation including procedures and techniques used to decontaminate equipment, vehicles, and onsite facilities.
- c. Summary of exposure monitoring and air sampling results accomplished during the project and explanation of any elevated readings.
- d. Resolution of major safety and health issues such as upgrading PPE, hazard control changes made to accommodate added tasks, discovery of unanticipated hazards, etc.
- e. Signatures of Safety and Health Manager and SSHO.

PART 2 PRODUCTS

(Not Applicable)

PART 3 EXECUTION

(Not Applicable)

END OF SECTION 01351

EXAMPLE CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGMENT

PROJECT NAME _____ CONTRACT NO. _____
 PROJECT ADDRESS _____
 CONTRACTOR'S NAME _____
 [EMPLOYEE'S][VISITOR'S] NAME _____

The contract for the above project requires the following: that you be provided with and complete formal and site-specific training; that you be supplied with proper personal protective equipment including respirators; that you be trained in its use; and that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required personal protective equipment. These things are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you.

I HAVE READ, UNDERSTAND AND AGREE TO FOLLOW THE SITE SAFETY AND HEALTH PLAN FOR THIS SITE.

Name _____ Date _____

FORMAL TRAINING: I have completed the following formal training courses that meet OSHA's requirements in 29 CFR 1926.65:

Date Completed

40 hour:
 8 hour supervisory:.....
 8 hour refresher:.....

SITE-SPECIFIC TRAINING: I have been provided and have completed the site-specific training required by this Contract. The Site Safety and Health Officer conducted the training.

RESPIRATORY PROTECTION: I have been trained in accordance with the criteria in [the Contractor's] [my Employer's] Respiratory Protection program. I have been trained in the proper work procedures and use and limitations of the respirator(s) I will wear. I have been trained in and will abide by the facial hair policy. _____

RESPIRATOR FIT-TEST TRAINING: I have been trained in the proper selection, fit, use, care, cleaning, and maintenance, and storage of the respirator(s) that I will wear. I have been fit-tested in accordance with the criteria in [the Contractor's] [my employer's] Respiratory Program and have received a satisfactory fit. [I have been assigned my individual respirator.] I have been taught how to properly perform positive and negative pressure fit-check upon donning negative pressure respirators each time. _____

MEDICAL EXAMINATION: I have had a medical examination within the last twelve months, which was paid for by my employer. The examination included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray. A physician made determination regarding my physical capacity to perform work tasks on the project while wearing protective equipment including a respirator. I was personally provided a copy and informed of the results of that examination. My employer's industrial hygienist evaluated the medical certification provided by the physician and checked the appropriate blank below. The physician determined that there:

_____ Were no limitations to performing the required work tasks;

_____ Were identified physical limitations to performing the required work tasks.

Date medical exam completed _____

[Employee's][Visitor's] Signature _____

Date _____

Printed Name _____

Social Security Number _____

Contractor's Site Safety and Health Officer Signature _____

Date _____

Printed Name _____

Social Security Number _____

SECTION 01440**CONTRACTOR QUALITY CONTROL****PART 1 GENERAL****1.1 REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

American Society for Testing and Materials (ASTM)

ASTM D 3740 (1996)	Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329 (1995b)	Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 -SUBMITTAL PROCEDURES:

SD-09 REPORTS

Quality Control Plan; GA – A Quality Control plan shall be submitted to the Contracting Officer (or the designated representative) as described in Section 3.2 below.

PART 2 PRODUCTS

(Not Applicable)

PART 3 EXECUTION**3.1 GENERAL**

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause entitled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product that complies with the contract requirements. The system shall cover all construction operations, both on-site and off-site, and shall be keyed to the proposed construction sequence. The project superintendent will be held responsible for the quality of work on the job and is subject to removal by the Contracting Officer (or the designated representative) for non-compliance with quality requirements specified in this contract. The

project superintendent in this context shall mean the individual with the responsibility for the overall management of the project including quality and production.

3.2 QUALITY CONTROL PLAN

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. The Government will consider an interim plan for the first 45 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.1 Content of the CQC Plan

The CQC plan shall include, as a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, fabricators, suppliers, and purchasing agents:

- a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC system manager who shall report to the project superintendent. Project superintendent in this context shall mean the individual with responsibility for the overall management of the project including quality and production.
- b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm, which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Government.
- d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with SECTION 01330 - SUBMITTAL PROCEDURES.
- e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer or the designated representative.)
- f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
- g. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures shall establish verification that identified deficiencies have been corrected.
- h. Reporting procedures, including proposed reporting formats.

- i. A list of the definable features of work. A definable feature of work is a task that is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there is frequently more than one definable feature under a particular section. This list shall be agreed upon during the coordination meeting.

3.2.2 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in the CQC plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.3 Notification of Changes

After acceptance of the CQC plan, the Contractor shall notify the Contracting Officer (or the designated representative) in writing a minimum of seven calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer (or the designated representative).

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both on-site and off-site work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer (or the designated representative). The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures that may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

The Contractor shall identify an individual within its organization at the worksite who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. This CQC System Manager shall be on the site at all times during construction and shall be employed by the Contractor. The CQC System Manager shall have no other duties. This CQC System Manager shall be USACE certified and shall be approved by the Contracting Officer (or the designated representative). To become "certified" the manager must have completed the course entitled "Construction Quality Management for Contractors". This course is offered quarterly at the St. Louis Corps of Engineers District Office. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. Period of absence may not exceed one (1) week at any one time, and not more than ten (10) workdays during a calendar year. The requirements for the alternate will be the same as for the designated CQC Manager.

3.4.1 CQC Organizational Staffing

The Contractor shall provide a CQC staff that shall be at the worksite at all times during progress, with complete authority to take any action necessary to ensure compliance with the contract. The actual strength of the CQC staff may vary during any specific work period to cover the needs of the work period. When necessary for a proper CQC organization, the Contractor shall add additional staff at no cost to the Government. All CQC staff members shall be subject to acceptance by the Contracting Officer (or the designated representative).

3.4.2 Organizational Changes

The Contractor shall maintain the CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff, the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer (or the designated representative) for acceptance.

3.5 SUBMITTALS

Submittals shall be made as specified in SECTION 01330 - SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals and deliverables are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of this contract. At least three phases of control shall be conducted by the CQC System Manager for all definable features of work, as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

- a. A review of each paragraph of applicable specifications, reference codes, and standards. A copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field shall be made available by the Contractor at the preparatory inspection. These copies shall be maintained in the field and available for use by the Government personnel until final acceptance of the work.
- b. A review of the contract drawings.
- c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.
- d. A check to assure that provisions have been made to provide required control inspection and testing.
- e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

- g. A review of the appropriate activity hazard analysis to assure safety requirements are met.
- h. Discussion of procedures for constructing the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that phase of work.
- i. A check to ensure that the portion of the CQC Plan for the work to be performed has been accepted by the Contracting Officer (or the designated representative).
- j. The Government shall be notified at least 24 hours in advance of beginning any of the required action of the preparatory phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

- a. A check of preliminary work to ensure that it is in compliance with contract requirements. Review minutes of the preparatory meeting.
- b. Verification of full contract compliance. Verify required control inspection and testing.
- c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with sample panels is appropriate.
- d. Resolve all differences.
- e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.
- f. The Government shall be notified at least (24) hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.
- g. The initial phase should be repeated for each new crew to work on-site, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure continuing compliance with contract requirements, including control testing, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work that may be affected by the deficient work. The Contractor shall not build upon or conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

As determined by the Government, additional preparatory and initial phases may be conducted on the same definable features of work if the quality of on-going work is unacceptable; if there are

changes in the applicable CQC staff, on-site production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product that conforms to contract requirements. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

- a. Verify that testing procedures comply with contract requirements.
- b. Verify that facilities and testing equipment are available and comply with testing standards.
- c. Check test instrument calibration data against certified standards.
- d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.
- e. Results of all tests taken, both passing and failing tests, shall be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test shall be given. If approved by the Contracting Officer (or the designated representative), actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an off-site or commercial test facility shall be provided directly to the Contracting Officer (or the designated representative). Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed any charges incurred to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 On-Site Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.8 COMPLETION INSPECTION

At the completion of all work or any increment thereof established by a completion time stated in the Special Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected and so notify the Government. These inspections and any deficiency corrections required by this paragraph shall be accomplished within the time stated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

- a. Contractor/subcontractor and their area of responsibility.
- b. Operating plant/equipment with hours worked, idle, or down for repair.
- c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.
- d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, and Follow-up). List deficiencies noted along with corrective action.
- e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.
- f. Submittals reviewed, with contract reference, by whom, and action taken.
- g. Off-site surveillance activities, including actions taken.
- h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.
- i. Instructions given/received and conflicts in plans and/or specifications.
- j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be completed and delivered to the government by 12 noon each day (e.g., Monday's report is due Tuesday at noon). As a minimum, one report shall be prepared and submitted for every seven days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by

the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer (or the designated representative) will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer (or the designated representative) may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

3.11 QUALITY ASSURANCE COMMENTS

During the course of the contract, the Contractor will receive various Quality Assurance comments from the Government that will reflect corrections needed to Contractor activities or reflect outstanding or future items needing the attention of the Contractor. The Contractor shall acknowledge receipt of these comments by specific number reference on its Daily CQC Report, and shall also reflect on its Daily CQC Report when these items are specifically completed or corrected to permit Government verification.

3.12 CONTRACTOR'S SCHEDULING SYSTEM

The Contractor's schedule system shall include, as specific and separate activities, all Preparatory Phase Meetings (inspections), all O&M Manuals and all Test Plans of Electrical and Mechanical Equipment or Systems that require validation testing or instructions to Government representatives.

END OF SECTION 01440

SECTION 01500**TEMPORARY CONSTRUCTION ACTIVITIES****PART 1 GENERAL****1.1 REFERENCES**

American Society For Testing And Materials (ASTM)

ASTM D 4873 (1995) Identification, Storage, and Handling of Geotextiles

Engineering Manuals (EM)

EM 385-1-1 (1996) USACE Safety and Health Requirements Manual

Code Of Federal Regulations (CFR)

10 CFR 20 Standards for Protection Against Radiation

1.2 GENERAL REQUIREMENTS**1.2.1 Site Plan**

The Contractor shall submit to the Contracting Officer (or the designated representative) for approval, a site plan which proposes temporary construction facilities, decontamination areas, and laydown/storage areas. The Contractor shall maintain all temporary construction facilities. Avenues of ingress/egress shall be as shown on the Contract Drawings. Any areas, which may require gravel stabilization to facilitate work or prevent the spread of contamination, shall be identified on the site plan prepared by the Contractor. The Contractor shall also indicate if the use of a supplemental or other staging area is desired.

1.2.2 Identification of Employees

The Contractor shall be responsible for furnishing to each employee, and for requiring each employee engaged on the work to display, identification as approved and directed by the Contracting Officer (or the designated representative). Prescribed identification shall immediately be delivered to the Contracting Officer (or the designated representative) for cancellation upon release of any employee. When required, the Contractor and subcontractor personnel shall wear identifying markings on hard hats clearly identifying the company for whom the employee works.

1.2.3 Employee Parking

Contractor employees shall park privately owned vehicles (POVs) in the area designated on the Contract Drawings. Contractor employee parking shall not interfere with existing and established parking requirements.

1.2.4 Site Mowing

The Contractor shall be responsible for mowing the existing turf within the Contract Limits as shown on the drawings.

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 - SUBMITTAL PROCEDURES:

SD-04 Drawings

Site Plan; GA - The Contractor shall submit a Site Plan that identifies how the Contractor will utilize the site such as showing the location of decontamination areas, trailer location, parking, laydown/storage areas, etc.

SD-13 Certificates

Gravel; FIO - A minimum of 5 days prior to scheduled use, the Contractor shall submit a sample for determination of the quality of the material.

1.4 AVAILABILITY AND USE OF UTILITY SERVICES

1.4.1 Sanitation

Within the construction area, the Contractor shall provide and maintain, including all costs, minimum field-type sanitary facilities approved by the Contracting Officer (or the designated representative).

1.4.2 Telephone

The Contractor shall make arrangements and pay all costs for telephone facilities desired unless specified otherwise by the Contracting Officer (or the designated representative) at the time of contract award.

1.4.3 Utility Service

Utility service exists on the north end of the site in the area designated for Contractor POV parking. The Contractor shall be permitted to utilize this service at the discretion of the Contracting Officer (or the designated representative). If the Contracting Officer (or the designated representative) does not permit the use of existing utility services, then the Contractor, at its expense and in a manner satisfactory to the Contracting Officer (or the designated representative), shall provide, maintain, and operate necessary temporary generating equipment or temporary power drops from available utilities. Electric power for pumps or other equipment on site shall be provided by the Contractor using portable generators. It shall be the responsibility of the Contractor to ensure the pumps for storm water provide power on a 24-hour basis.

1.5 BULLETIN BOARD, PROJECT SIGN, AND PROJECT SAFETY SIGN

1.5.1 Bulletin Board

Immediately upon beginning of work, the Contractor shall provide a weatherproof glass-covered bulletin board not less than 36 by 48 inches in size for displaying the Equal Employment Opportunity poster, a copy of the wage decision contained in the contract, Wage Rate Information poster, and other information approved by the Contracting Officer (or the designated representative). The bulletin board shall be located at the project site in a conspicuous place easily accessible to all employees, as approved by the Contracting Officer (or the designated representative). Legible copies of the aforementioned data shall be displayed until work is

completed. Upon completion of work the bulletin board shall be removed by and remain the property of the Contractor.

1.5.2 Project and Safety Signs

The requirements for the signs, their content, and location shall be provided by the Contractor with the approval of the Contracting Officer (or the designated representative). The Contractor shall erect the signs within 15 days after receipt of the notice to proceed and prior to commencing waste pile removal actions. The data required by the safety sign shall be corrected daily, with light colored metallic or non-metallic numerals. Upon completion of the project, the signs shall be removed from the site. The Contractor shall maintain existing signs except when temporary removal is necessary to perform a task. The signs must be immediately replaced upon completion of that task.

1.6 PROTECTION AND MAINTENANCE OF TRAFFIC

1.6.1 Haul Road

The Contractor shall construct and maintain access and haul roads necessary for proper execution of the work under this contract. Haul roads shall be constructed with suitable grades and widths. The Contractor shall place a geotextile over the existing ground surface prior to placing the gravel of the haul roads for stability and to minimize the spread of contamination. The Contractor shall provide necessary lighting, signs, barricades, and distinctive markings for the safe movement of traffic. The method of dust control shall be adequate to ensure safe operation at all times and to prevent airborne occupational exposure in excess of the limits contained in 10 CFR 20, portions of EM 385-1-1 (specifically Section 0.6.E), Section 01130 – ENVIRONMENTAL PROTECTION paragraph 3.4.1, and Section 01351 – SAFETY, HEALTH AND EMERGENCY RESPONSE paragraph 1.9.3. Location, grade, width, and alignment of construction and hauling roads shall be subject to approval by the Contracting Officer (or the designated representative). Upon completion of the work, only haul roads designated by the Contracting Officer (or the designated representative) shall be removed, otherwise, haul roads shall be left in place.

1.6.2 Barricades

The Contractor shall limit site access to only authorized personnel due to existing site contamination. Barricades shall be required whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic. Barricades shall be securely placed, clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night. The Contractor shall maintain existing barricades except when temporary removal is necessary to perform a task. The barricades must be replaced immediately upon completion of that task. The Contractor shall be responsible for maintaining site security at all times including non-working hours.

1.7 CONTRACTOR'S TEMPORARY FACILITIES

1.7.1 Administrative Field Offices

The Contractor shall be responsible for providing field offices.

1.7.2 Storage Area

Trailers, materials, or equipment shall not be placed or stored outside the equipment storage/laydown area unless such trailers, materials, or equipment are assigned a separate and distinct storage area by the Contracting Officer (or the designated representative) away from the

vicinity of the construction site but within the contract limits. Materials shall not be stockpiled outside the equipment storage/laydown area in preparation for the next day's work. Mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment, shall be parked within the equipment storage/laydown area at the end of each work day.

1.7.3 Supplemental Storage Area

Upon Contractor's request, the Contracting Officer (or the designated representative) will designate another or supplemental area for the Contractor's use and storage of trailers, equipment, and materials. The Contractor shall be responsible for cleanliness and orderliness of the area used and for the security of any material or equipment stored in this area. The Government will not provide utilities to this area.

1.7.4 Security Provisions

The Contractor shall be responsible for the security of its own equipment; in addition, the Contractor shall notify the appropriate law enforcement agency requesting periodic security checks of the construction site.

1.8 SITE COMMUNICATION

The Contractor, at its expense and in a manner satisfactory to the Contracting Officer (or the designated representative), shall supply communication devices for site communication. The devices shall be made available for use by Government personnel.

1.9 PROJECT FENCING

The Contractor shall be responsible for the replacement of any existing fencing that is damaged or removed during the Work.

1.10 CLEANUP

Construction debris, waste materials, packaging material and the like shall be removed from the work site daily and disposed of according to the approved Work Plan. Any dirt or mud that is tracked onto paved or surfaced roadways shall be cleaned away. This will be verified by radiological surveys.

1.11 RESTORATION OF STORAGE AREA

Upon completion of the project, the designated equipment storage/laydown area shall be restored to its condition prior to the start of the Work. The area shall be barricaded or roped off to limit access upon completion of the Work. Signs shall be conspicuously placed designating the area as contaminated. All materials and equipment shall be removed from the equipment storage/laydown area at the completion of the project. Gravel used to traverse grassed areas shall be removed and the area restored to its original condition, including sod placement as described in Section 02935 - SOD and as designated by the Contracting Officer (or the designated representative).

PART 2 PRODUCTS

2.1 COMPONENTS FOR HAUL ROAD STABILIZATION

2.1.1 Geotextile

Geotextile shall be used for underlayment of the Haul Road and shall comply with the requirements of Section 02272 – SEPARATION/FILTRATION GEOTEXTILE.

2.1.2 Identification Storage and Handling

Geotextile shall be identified, stored and handled in accordance with ASTM D 4873.

PART 3 EXECUTION

3.1 Haul Road Inspection

The Haul Road shall be considered an uncontaminated area. The Contractor shall inspect the Haul Road for spills at the end of each day and remove any debris or soil. The Contractor shall conduct a radiological survey of the Haul Road daily for the first 2 weeks of operation and weekly thereafter or as directed by the Contracting Officer (or the designated representative). A radiological survey of the equipment and tires on the piece of hauling equipment shall be conducted on each trip the first week of operation and once every 10 trips thereafter to determine if the Haul Road is being contaminated.

END OF SECTION 01500

BLANK PAGE

SECTION 01565**STORM WATER POLLUTION PREVENTION MEASURES****PART 1 GENERAL****1.1 REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

Code of Federal Regulations (CFR)
40 CFR 122 to 125

Code of State Regulations (CSR)
10 CSR 20-6.200

American Society for Testing and Materials (ASTM)
ASTM D 4873 (1995) Identification, Storage, and Handling of Geotextiles

USACE Engineering Pamphlet (EP)
USACE EP 1110-1-16 (1997) Engineering and Design Handbook for the Preparation of Storm Water Pollution Prevention Plans for Construction Activities

1.2 GENERAL

The Contractor shall implement the storm water pollution prevention measures specified in this section in a manner which will meet the requirements of Section 01130-ENVIRONMENTAL PROTECTION, and the requirements of the existing National Pollutant Discharge Elimination System (NPDES) permit for the site. The existing NPDES permit is under renewal and the Contractor will need to comply with any revisions to the permit as well.

Management of stormwater discharge from industrial and construction activities in Missouri is regulated under Missouri Department of Natural Resources (MDNR) regulations promulgated at 10 CSR 20-6.200 (Storm Water Regulations) and 10 CSR 20-6.010 (Construction and Operating Permits). These regulations are consistent and compatible with the corresponding federal Clean Water Act regulations promulgated at 40 CFR 122 to 125, inclusive. Missouri has full general permitting authority to administer stormwater permits. The MDNR has issued an NPDES permit for HISS (State Operating Permit number MO-0111252) for the discharge of untreated stormwater run-off from three outfalls. Outfall 001 is located at the north end of the site and discharges to Coldwater Creek via a stormwater culvert located along Latty Ave. Outfall 002 is located at the southwest end of the site and discharges to a Coldwater Creek tributary stream. Outfall 003 is located at the southeast end of the site and also discharges to a Coldwater Creek tributary stream. Monthly monitoring for total settleable solids is required at all outfalls when flow occurs. The permit also requires quarterly monitoring at all outfalls for specific conductance, total organic carbon (TOC), total settleable solids, total organic halides (TOX), gross alpha, gross beta, Pb-210, Ra-226, Ra-228, Th-230, Th-232, and isotopic uranium. Quarterly grab sampling for pH, conductivity, daily flow and rainfall is also required. Both VOCs and SVOCs must be quantitated if positive results are obtained for TOX. The only pollutant specifically limited in the discharge from the three outfalls is total settleable solids with maximum daily and monthly average limits of 1.5ml/L/hr and 1.0ml/L/hr, respectively. Again, the NPDES permit is under renewal at this time and the Contractor will be required to comply with any revisions to the permit.

The limits and conditions of the current HISS permit apply to untreated stormwater discharges that result from current site conditions. As such, the current permit limits may not be applicable to stormwater discharges resulting from site conditions expected during removal/remedial activities at HISS. Any expansions or modifications which will result in new or different characteristics must be reported sixty (60) days before the stormwater modification begins [10 CSR 20-6.200(5)(D)E.3].

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 -SUBMITTAL PROCEDURES:

SD-09 REPORTS

Storm Water Pollution Prevention Plan; GA - A Storm Water Pollution Prevention Plan (SWPPP), as described in Section 01565, Para 3.1, shall be submitted and approved prior to the initiation of any soil disturbance activities. The SWPPP shall be submitted as part of the Environmental Protection Plan contained in Section 01130 – ENVIRONMENTAL PROTECTION.

INSPECTION REPORTS; FIO - INSPECTION REPORTS, AS DESCRIBED IN SECTION 01565, PARA 3.4.3, SHALL BE SUBMITTED TO THE CONTRACTING OFFICER (OR THE DESIGNATED REPRESENTATIVE) WITHIN 24 HOURS OF THE INSPECTION AS A PART OF THE **CONTRACTOR'S DAILY CQC REPORT**.

1.4 EROSION AND SEDIMENT CONTROLS

The controls and measures required of the Contractor are described below.

1.4.1 Stabilization Practices

The stabilization practices to be implemented shall include temporary seeding and erosion control matting. On his daily CQC Report, the Contractor shall record the dates when the major grading activities occur, (e.g., excavation, grading); when construction activities temporarily or permanently cease on a portion of the site; and when stabilization practices are initiated. Except as provided in paragraphs UNSUITABLE CONDITIONS and NO ACTIVITY FOR LESS THAN 21 DAYS, stabilization practices shall be initiated as soon as practicable, but no more than 14 days after construction activities have temporarily or permanently ceased, in any portion of the site.

1.4.1.1 Unsuitable Conditions

Where the initiation of stabilization measures by the fourteenth day after construction activity temporarily or permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

1.4.1.2 No Activity for Less Than 21 Days

Where construction activity will resume on a portion of the site within 21 days from when activities ceased (e.g., the total time period that construction activity is temporarily ceased is less than 21 days), then stabilization practices do not have to be initiated on that portion of the site by the fourteenth day after construction activity temporarily ceased.

1.4.2 Structural Practices

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall include the following:

1. During construction, the Contractor shall keep the site well drained at all times. Standing water on the site shall not be allowed.
2. All swales and other drainage routes shall be lined with soil erosion control matting in order to prevent erosion and scour during and after construction as shown on the Contract Drawings.
3. The Contractor shall place straw check dams on 75-foot centers, if needed to control sediment.
4. Silt barrier fence shall be placed at critical erosion areas in order to prevent sediment from entering adjacent properties.
5. All earth-moving activities shall be carried out in such a manner as to minimize the amount of disturbed land.
6. Any temporary erosion control measure applied to exposed soil surfaces shall remain functional until vegetative cover is sufficiently established.
7. All site drainage shall be directed to the storm water and sediment control system.

1.4.2.1 Silt Fences

The Contractor shall provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Silt fences shall be properly installed to effectively retain sediment prior to commencing construction activities. Silt fences shall be installed in the locations indicated in the Contractor's Storm Water Pollution Prevention Plan. Final removal of silt fence barriers shall be upon approval by the Contracting Officer (or the designated representative).

1.4.2.2 Storm Water and Sediment Control System

A storm water and sediment control system shall be constructed by the Contractor in accordance with the Storm Water Pollution Prevention Plan prior to beginning construction. The Contractor is responsible for maintaining the system in accordance with this contract specification. Upon completion of the project, the Contractor is responsible for final clean-out of the system (see Section 01130 – ENVIRONMENTAL PROTECTION).

Storm water shall be segregated into two (2) streams:

- 1) Stormwater runoff from undisturbed or revegetated contaminated areas and clean non-contact stormwater runoff from non-waste areas such as parking lots, covers, caps, etc., and
- 2) Potentially contaminated water that has been in contact with disturbed waste or soils underlying the waste pile covers.

Clean storm water on the east side of the railroad tracks will be diverted to existing drainage ditches on the site. Clean stormwater on the west side of the tracks (HISS side) will be directed

through one of the existing H-flume monitoring stations on the north, southeast or southwest sides of the site.

Potentially contaminated storm water will be isolated and collected on-site; sampled; and, if found to be contaminated, will be applied to the land for dust suppression; released if under NPDES permit requirements; or, if necessary; transferred by another Contractor to SLAPS for treatment. Potentially-contaminated stormwater will be directed into a sump and then pumped into above-ground holding tanks. Required practices for the tanks include:

- comply with relevant UL and ASTM standards to ensure their structural integrity;
- be placed on a properly graded and compacted base;
- above-ground piping shall be water tight and properly supported to minimize vibration, abrasion, and allow for expansion, contraction, and leakage;
- all components of the tank system shall be compatible with the stored material;
- tanks shall be tightness tested prior to initial use;
- tanks shall be provided with level indicators or switches to prevent overflows;
- prior to initiating any transfers, the available capacity in the receiving vessel shall be verified and recorded;
- prior to initiating any wastewater transfers, all connections and fittings shall be visually inspected for tightness, signs of leakage or other deterioration;
- temporary connections to the tank system should be made with dry disconnects or with quick disconnects that have a ball valve adjacent to the camlock;
- isolation valves shall be provided around system components that are anticipated to require field service or media replacement;
- check valves should be provided on inlet and outlet lines;
- all accessible portions of the tank system should be inspected daily.

The Contractor shall maintain a 1-foot free board in each tank at all times. Tanks on site shall have the capacity to store the discharge from a 10-year, 24-hour storm event over 9,300 sq. ft. (maximum allowable disturbed area) on site at all times (approximately 40,000 gallons). The Contractor is responsible for collection and storage of the water, and is responsible for sampling and analysis of the collected water. The Contractor is also responsible for transferring contaminated water into the transfer trucks; however, transfer offsite will be performed by a separate contractor.

The Contractor must coordinate with the USACE for sampling and analysis. The Contractor shall not discharge potentially contaminated storm water without approval of the Contracting Officer (or the designated representative). The Contractor must conduct sampling and analysis in a timely manner so tanks can be emptied and adequate storage capacity maintained.

PART 2 PRODUCTS

2.1 COMPONENTS FOR SILT FENCES

2.1.1 Geotextile

The geotextile shall comply with the requirements of Section 02272 – SEPARATION/FILTRATION GEOTEXTILE.

2.1.2 Silt Fence Stakes and Posts

The Contractor may use either wooden stakes or steel posts for fence construction. Wooden stakes utilized for silt fence construction, shall have a minimum cross section of 2 inches by 2 inches when oak is used and 4 inches by 4 inches when pine is used, and shall have a minimum

length of 3 feet. Steel posts (standard "U" or "T" section) utilized for silt fence construction, shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 3 feet.

2.1.3 Mill Certificate or Affidavit

A mill certificate or affidavit shall be provided attesting that the fabric and factory seams meet chemical, physical, and manufacturing requirements specified above. The mill certificate or affidavit shall specify the actual Minimum Average Roll Values and shall identify the fabric supplied by roll identification numbers. The Contractor shall submit a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the geotextile.

2.1.4 Identification Storage and Handling

Geotextile shall be identified, stored and handled in accordance with ASTM D 4873.

PART 3 EXECUTION

3.1 STORM WATER POLLUTION PREVENTION PLAN

A SWPPP shall be prepared in accordance with EP 1110-16, including the following elements:

- 1) A site description including:
 - Intended sequence of significant activities;
- 2) A site map with:
 - Site topography and drainage patterns;
 - Approximate slopes after pile removal and grading;
 - Outline of impervious areas and areas which won't be disturbed;
 - Location of major structural and non-structural controls;
 - Areas where stabilization practices are expected to occur;
 - Locations of equipment and material storage; and
 - Storm water discharge locations.
- 3) A description of erosion and sediment controls, including:
 - Stabilization practices for all areas disturbed by pile removal activities;
 - Sediment capture methods to remove sediment from on-site run-off before it leaves the site;
 - Structural practices for all drainage/discharge locations;
 - Velocity dissipation devices to provide non-erosive flow conditions from the discharge point along the length of any outfall channel;
 - Waste disposal practices which prevent discharge of solid materials;
 - Measures to minimize offsite tracking of sediments by construction vehicles;
 - Description of the timing during the construction when erosion and sediment control measures will be implemented;
 - Maintenance procedures for control measures identified in the plan; and
 - Identification of any allowable non-storm water discharges.
- 4) Inspection plans, including:
 - Areas to be inspected
 - Inspection schedule;
 - Inspection checklists; and
 - Maintenance procedures;

- 5) Personnel training requirements and documentation.
- 6) Identification of specific responsibilities for implementation of all planned actions.

3.2 INSTALLATION OF SILT FENCES

Silt fences shall extend a minimum of 18 inches above the ground surface and shall not exceed 34 inches above the ground surface. Geotextile shall be from a continuous roll, cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6-inch overlap, and securely sealed. A trench shall be excavated approximately 6 inches wide and 6 inches deep on the upslope side of the location of the silt fence. The 6-inch by 6-inch trench shall be backfilled and the soil compacted over the geotextile. Silt fences shall be removed upon approval by the Contracting Officer (or the designated representative).

3.3 MAINTENANCE

The Contractor shall maintain the temporary and permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures.

3.3.1 Silt Fence Maintenance

Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed upon the approval of the Contracting Officer (or the designated representative). The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. In accordance with Section 02935 - SOD, Sod shall be placed in the areas disturbed by this shaping.

3.3.2 Storm Water and Sediment Control System Maintenance

The storm water and sediment control system shall be inspected in accordance with paragraph 3.4 "Inspections". Any required repairs shall be made promptly. Sediment deposits shall be removed when deposits reach one-third of the original container volume and disposed of with the waste pile material.

3.3.3 Straw Check Dam Maintenance

The Contractor shall inspect the check dams in accordance with paragraph 3.4 "Inspections" and remove sediment deposits when heights reach 1/2 the original volume.

3.4 INSPECTIONS

3.4.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and areas where vehicles exit the site at least once every seven (7) calendar days and within 24 hours of the end of any storm that produces 0.5

inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month. Inspections should be recorded on the forms included in Appendix D of EP 1110-1-16, or equivalent records.

3.4.2 Inspections Details

Disturbed areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the Storm Water Pollution Prevention Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.4.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Prevention Plan, maintenance performed, and actions taken, including the completed EP 1110-1-16 Appendix D inspection forms. The report shall be furnished to the Contracting Officer (or the designated representative) within 24 hours of the inspection as a part of the Contractor's daily CQC Report. A copy of the inspection report shall be maintained on the job site.

END OF SECTION 01565

BLANK PAGE

SECTION 02120**TRANSPORTATION OF HAZARDOUS MATERIALS REQUIREMENTS****PART 1 GENERAL**

HISS pile materials shall be loaded into rail cars equipped with plastic (burrito-bag) liners along the rail spur, as shown on the Contract Drawings, and transported to a permitted facility (e.g. Envirocare) as designated by the Contracting Officer (or the designated representative) and approved by the USACE. All materials and preparations shall conform to the applicable requirements of the U.S. Department of Transportation (DOT) Hazardous Materials Requirements (HMR) in 49CFR171-178. Wastes generated during pile materials loading and preparation shall be packaged according to the HMR in 49CFR173 and shipped according to the HMR. Materials from the HISS Piles will be blended to less than 2000 pci/g. The Contractor shall submit a blending plan as part of the removal action work plan. This plan will indicate how blending will be accomplished based on available data, field surveys, and analytical constraints. Analytical characterization results will be gathered to determine that the waste acceptance criteria are met and that the appropriate hazard class and proper shipping name are available for each loaded railcar. Estimated volumes of waste to be transported are shown in the Bidding Schedule (Section 00010). No RCRA hazardous waste is currently in the HISS pile material and no hazardous waste is expected to be encountered during the remediation activity, except that which may be generated by the contractor. HISS pile materials will be classified as Class-9 (miscellaneous) hazardous material.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

10 CFR 20	Standards for Protecting Against Radiation
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 265	Interim status standards for owners and operators of hazardous waste treatment, storage, and disposal facilities
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
40 CFR 302	Designation, Reportable Quantities, and Notification
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	Definitions and Emergency and Incident Notifications
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements, List of Hazardous Substances and reportable Quantities
49 CFR 173	Shippers - General Requirements for Shipments and Packagings
49 CFR 174	Carriage by Rail
49 CFR 177	Carriage by Public Highway
49 CFR 178	Specifications for Packagings

OTHER

EM 385-1-1	(1996) USACE Safety and Health Requirements Manual
------------	--

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 - SUBMITTAL PROCEDURES:

SD-09 Reports

Waste Management Plan; GA - Prior to start of work, the Contractor shall develop a plan detailing the manner in which wastes shall be managed in accordance with the Contract Documents. This plan shall be prepared in accordance with Part 3 of this Section and include the following:

1. Radiologically Contaminated Soils

- a. Description of temporary staging at the point of removal.
- b. Conditioning operations to meet disposal facility waste acceptance criteria (WAC) including limits for moisture content.
- c. Suppression of dust and spread of contamination to areas outside contract limits from temporary staging areas, transportation to loading facilities, loading operations and transportation to the disposal facility.
- d. Description of sampling and analysis procedures to meet project and disposal facility requirements.

Refer to and coordinate with Site Removal Plan as contained in Section 02221 – SOIL REMOVAL.

2. Radiological Waste or Other Regulated Wastes Generated by Contractor as a Result of Execution of the Work

- a. List of potential waste streams that may be generated by the Contractor.
- b. Description of how the wastes will be managed onsite, packaged, transported and disposed.
- c. Identification, handling, record keeping, inspection, treatment or disposal of hazardous wastes resulting from the Work.

Transportation Plan; GA – Prior to the first off-site shipment the Contractor will develop and provide a Transportation Plan (TP) which describes the process for loading and transporting HISS materials for disposal including the steps proposed to comply with the U.S. Department of Transportation Hazardous Materials Regulations (HMR). The TP will specify by name the trained and qualified person responsible for: 1) administering the TP, 2) identifying and training HazMat employees, 3) communicating scheduling notifications and revisions, and 4) interacting with the carriers. The TP will detail the Contractor's process for inspecting incoming railcars and notifying the railroad of mechanical defects. It will also detail the process of conducting incoming radiological surveys of railcars, failure criteria, and failure notification procedures. The TP will detail how employees involved in loading or preparing hazardous material for transportation and for those responsible for emergency response information will be identified and trained on the hazards and appropriate responses to material releases. The TP shall specify how the Contractor plans to sample or screen the materials in each railcar and develop appropriate information for the disposal manifest and shipping papers. The TP will specify how the material will be sealed before shipment, how to measure and limit the gross weight of material loaded into each railcar to 263,000 lb., and how the weight and isotopic data will be gathered and used to classify the material for transportation. The TP will detail the process for installing the proper hazardous materials placards and USACE labels on loaded railcars before their departure. The TP will specify how transport vehicles will be appropriately closed and sealed for transport. The TP

should also specify how the shipping paper information will be delivered to the railroad. The TP shall address the establishment of per-railcar shipment files to include, but not limited to, incoming and outgoing radiological survey data, dates and times of railcar arrival, loading, shipment and unloading, shipping papers (including bills of lading) and how those files will be maintained until delivery to the USACE at the end of the project. The TP will specify how (i.e. by designating an individual to man the emergency telephone or contracting with an agency like CHEMTREC) emergency information will be made available to carrier or emergency response organizations in accordance with DOT regulations. The TP will specifically list steps to be taken to notify local response organizations, the Contractor, and the USACE in the event of an incident or release. The TP will include or reference the procedure for responding to spills or releases. The TP does not have to stand alone, and its provisions can be incorporated into or attached to the applicable sections of other work plans as determined by the Contractor and approved by the USACE.

Record keeping; GA. - If hazardous waste is generated during execution of the Work, the Contractor shall provide information necessary to file state annual or EPA biennial reports for all hazardous waste transported, treated, stored, or disposed of under this contract. The Contractor shall not forward this data directly to the regulatory agency but to the Contracting Officer (or the designated representative) at the specified time. The submittal shall contain all the information necessary for filing of the formal reports in the form and format required by the governing Federal or state regulatory agency. A cover letter shall accompany the data to include the contract number, Contractor name, and project location. Records generated for transportation, including the bill of lading, incoming survey and inspections reports, isotopic and other material characterization data, RQ determinations, quality assurance records, loading checklists, manifest forms and other miscellaneous reports shall be assembled for each package, maintained, and turned over to the CO at the end of the project.

Spill Response; FIO. - In the event of a spill or release of a hazardous substance (as designated in 40 CFR 302), or pollutant or contaminant, or oil (as governed by the Oil Pollution Act (OPA), 33 U.S.C. 2701 et seq.), the Contractor shall notify the Contracting Officer (or the designated representative) immediately. The Contractor shall develop a Spill Response Plan and implementing procedures detailing reporting thresholds, how notifications will be communicated, and spill response actions that ensure minimal environmental impact and prompt remediation. The Contractor shall provide instructions for emergency response, including providing the appropriate North American Emergency Response Guide, and notification instructions along with the bills of lading for each shipment. The Contractor shall ensure that the carrier (i.e. railroad) has sufficient insurance and response capability before signing any contract or tender.

Exception Reports; GA. - In the event that a manifest copy documenting receipt of hazardous waste at the treatment, storage, and disposal facility is not received within 35 days of shipment initiation, the Contractor shall prepare and submit an exception report to the Contracting Officer (or the designated representative) within 37 days of shipment initiation.

SD-13 Certificates

Qualifications; FIO. - Copies of the current certificates of registration issued to the Contractor and/or sub-contractors or written statements certifying exemption from these requirements.

Certificates of Disposal; FIO. - Certificates documenting the receipt and acceptance of radiological wastes at Envirocare or other approved permitted waste treatment and disposal facilities within 180 days of each shipment. A copy of the disposal certification shall be included with each railroad car's shipment file. Receipt of these certificates will be required for final payment.

Packaging Certification; GA. - Submit all transportation related shipping documents to the RA Contractor representative including material disposal manifests, incoming inspection and

radiological survey reports, bills of lading or other shipping documents for non-hazardous or radiological wastes including material characteristics or profiles and supporting waste analysis documents, for USACE review a minimum of 5 working days prior to anticipated shipment. The Contractor will ensure that all HazMat is properly packaged in accordance with the applicable DOT regulations.

SD-18 Records

Notices of Non-Compliance and Notices of Violation; FIO. - Notices of non-compliance or notices of violation by a Federal, state, or local regulatory agency issued to the Contractor in relation to any work performed under this contract will immediately be provided to the Contracting Officer (or the designated representative). The Contractor shall also furnish all relevant documents regarding the incident and any information requested by the Contracting Officer (or the designated representative), and shall coordinate its response to the notice with the Contracting Officer or his designated representative prior to submission to the notifying authority. The Contractor shall also furnish a copy to the Contracting Officer (or the designated representative) of all documents submitted to the regulatory authority, including the final reply to the notice, and all other materials, until the matter is resolved.

Training Certifications; GA - All personnel identified by the Contractor as HazMat employees shall demonstrate that they have been trained in accordance with 49CFR172 Subpart-H. A copy of the plan to train and retrain HazMat employees, including lesson plans, program documentation, and written test shall be included with the TP and shall be submitted to the USACE at least 10 days prior to beginning work.

1.3 QUALIFICATIONS

1.3.1 Transportation and Disposal Coordinator

The Contractor shall designate, by position and title, an individual to act as the Transportation and Disposal Coordinator (TDC) for this contract in accordance with the provisions and instructions in the Transportation Plan. Generally, the TDC shall serve as the single point of contact for all environmental regulatory matters and shall have overall responsibility for total environmental compliance at the site including but not limited to accurate identification and classification of project waste and hazardous materials; determination of proper shipping names; identification of marking, labeling, packaging and placarding requirements; completion of disposal manifests, radiological and hazardous waste manifests, bills of lading, exception and discrepancy reports; expediting and tracking of shipments to verify timely receipt and maintain all tracking documents to turn over to USACE upon completion of the Work, and all other environmental documentation. The Contractor may designate an individual other than the TDC to perform some environmental regulatory compliance functions subject to formal request to USACE and concurrence of the Contracting Officer (or the designated representative). Such requests must be accompanied by a resume for the individual to perform such functions and the precise functions to be performed. The TDC shall have current DOT Training certification, including function-specific and emergency-response, as specified in 49CFR172, Subpart-H, and have, at a minimum, one year of specialized experience in identifying and managing the transportation of radiological and hazardous wastes. The TDC will establish the emergency response telephone system to be manned throughout each shipment to provide information to first responders and to notify the USACE.

1.3.2 Training

The Contractor's radiological and hazardous materials (HazMat) employees shall be identified, trained, tested, and certified to safely and effectively carry out their assigned duties in accordance with Section 01351 - SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW). The Contractor's HazMat employees transporting hazardous materials or preparing radiological and

hazardous materials for transportation shall be trained, tested, and certified in accordance with 49 CFR 172 Subpart H and the Transportation Plan (TP) before starting any related work. Training will consist of a hazardous materials regulations overview (general indoctrination), function-specific training covering the specific materials and associated hazards, and emergency response training for dealing with spills or unexpected releases of the hazardous materials. Recurrent training will be required every three years thereafter according to the Contractor's TP.

1.3.3 Certification

The Contractor and/or subcontractors transporting project waste shall possess a current certificate of registration issued by the Research and Special Programs Administration (RSPA), U.S. Department of Transportation, when required by 49 CFR 107, Subpart G. The Contractor will verify that carriers are also registered. The Contractor will ensure that all appropriate facility permit and/or waste acceptance criteria (WAC) are met and certify that all materials meet the appropriate HazMat requirements before signing the certification statement on any hazardous materials bill of lading.

1.4 LAWS AND REGULATIONS REQUIREMENTS

Work shall meet or exceed the minimum requirements established by Federal, state, and local laws and regulations that are applicable. These requirements are amended frequently and the Contractor shall be responsible for complying with amendments as they become effective. In the event that compliance exceeds the scope of work or conflicts with specific requirements of the contract, the Contractor shall notify the Contracting Officer (or the designated representative) immediately.

1.5 DEFINITIONS

1.5.1 Project Waste

The following categories of waste shall be managed and disposed of by the Contractor in accordance with the project specifications and all applicable federal, state and local laws and regulations.

1.5.1.1 Soils With Elevated Radioactivity

Any soil, or soil-like material, whose mixture of radionuclides concentration exceeds soil cleanup criteria from the HISS EE/CA. .

1.5.1.2 Hazardous Wastes

Any regulated wastes generated as a result of execution of the work which meets criteria established in RCRA or specified by the EPA in 40 CFR 261 or which has been designated as hazardous by a RCRA authorized state program. No RCRA hazardous waste currently is present in the Main Pile waste material and no hazardous waste is expected to be encountered during the remediation activity, except that which may be generated by the contractor.

1.5.1.3 Hazardous Materials

A substance or material which has been determined by the Secretary of Transportation (49 CFR 171.8) to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated pursuant to the Hazardous Materials Transportation Act, 49 U.S.C Appendix Section 1801 et seq. The term includes materials listed in 49CFR172.101 as hazardous materials, hazardous substances (i.e. soils that exceed a reportable quantity (RQ) under the provisions of 49 CFR 172, Appendix A Sections .101 and .102, materials that meet the defining characteristics for hazard classes and divisions in

49 CFR 173, and marine pollutants as listed in 49 CFR 172.101 Appendix B. EPA designated hazardous wastes are also hazardous materials.

PART 2 PRODUCTS

2.1 MATERIALS

The Contractor shall provide all of the materials required for the handling, packaging, labeling, marking, placarding and transporting hazardous wastes and hazardous materials in conformance with DOT-HMR standards. Details in this specification shall not be construed as establishing the limits of the Contractor's responsibility.

2.1.1 Packaging

The Contractor shall provide bulk containers for packaging project wastes consistent with the authorizations referenced in the Hazardous Materials Table in 49 CFR 172.101, Column 8. Packaging shall meet the corresponding specifications in 49 CFR 173 referenced in the Hazardous Materials Table, 49 CFR 172.101. Each packaging shall conform to the general packaging requirements of Subpart B of 49 CFR 173, to the requirements of 49 CFR 178 at the specified packing group performance level, to the requirements of special provisions of column 7 of the Hazardous Materials Table in 49 CFR 172.101, and shall be compatible with the material to be packaged as required by 40 CFR 262. The Contractor shall also provide other packaging related materials such as materials used to cushion or fill voids in overpacked containers to prevent damage or corrosion from the contents, etc. Sorbent materials shall not be capable of reacting dangerously with, being decomposed by, or being ignited by the hazardous materials being packaged.

The Contractor shall be responsible all aspects of the packaging of the project wastes such as approving railcars; arranging for the repair of railcars as necessary; scheduling with the rail company; coordinating the receipt, unloading, and return of shipments with the disposal facility; and providing appropriate containers for disposal of project wastes generated during the pile removal activity. Plastic liners (i.e. burrito-bags) are necessary for each railcar and will be supplied and installed by the Contractor.

Although the specific rail cars used shall be arranged for between the Contractor and the carrier, the following is an example of the type of gondola package that has been successfully used for previous FUSRAP transportation projects. Each gondola is 17.4 yds long, has a net capacity of approximately 193,000 lbs., and can contain approximately 76 yd³ of material. The liner is designed to extend over the sides of the car to about 15-cm above the ground. When loading is completed, the liner is closed and secured with elastic shock cords, which allow the material to shift during transport without tearing the liner. Only USACE approved liners shall be used. Drain holes in the bottom of the gondola are left open for drainage of rain during holding and transit. In the event that the rail car drainage system has other than the customary 1-1/2 inch drain holes, the COR will provide guidance for the number of drain holes to be open.

Contractor will track and expedite shipments by coordinating with the carrier and the disposal facility to minimize additional demurrage costs and will describe in the Transportation Plan the process and any supporting software used. The Contractor shall ensure that railcars are ordered sufficiently early to meet schedules and are loaded, shipped, and returned in timely fashion. The shipping papers (i.e. bill of lading) for each shipment shall be made available to the railroad before the scheduled shipping date in accordance with the terms and conditions of the transportation tender, contract, or tariff.

2.1.2 Markings

The Contractor shall provide and place markings for each project waste package, freight container, and/or transport vehicle consistent with the requirements of 49 CFR 172, Subpart D and 40 CFR 262.32. Markings must be capable of withstanding, without deterioration or substantial color change, a 180-day exposure to conditions reasonably expected to be encountered during container storage and transportation.

2.1.3 Labeling

The Contractor shall provide primary and subsidiary labels for project wastes consistent with the requirements in the Hazardous Materials Table in 49 CFR 172.101, Column 6. Labels shall meet design specifications required by 49 CFR 172, Subpart E including size, shape, color, printing, and symbol requirements. Labels shall be durable and weather resistant and capable of withstanding, without deterioration or substantial color change, a 180-day exposure to conditions reasonably expected to be encountered during container storage and transportation. The Contractor shall also provide and install the USACE labels as required by USACE EC-200-1-3. The labels shall be placed on each side and on top of the closed burrito bag.

2.1.4 Placards

For each off-site shipment of project waste, the Contractor shall provide and install placards consistent with the requirements of 49 CFR 172, Subpart F. Placards shall be installed on each side and each end of bulk packaging, freight containers, transport vehicles, and rail cars as soon as any hazardous material is loaded therein. Placards may be plastic, metal, or other material capable of withstanding, without deterioration, a 30-day exposure to open weather conditions and shall meet design requirements specified in 49 CFR 172, Subpart F.

2.1.5 Spill Response Materials

The Contractor shall provide spill response materials including, but not limited to, containers, adsorbent, shovels, and personal protective equipment. Spill response materials shall be available at all times in which project wastes are being handled or transported. Spill response materials shall be compatible with the type of material being handled.

2.2 EQUIPMENT AND TOOLS

The Contractor shall provide miscellaneous equipment and tools necessary to handle project wastes in a safe and environmentally sound manner. Plastic liners (burrito-bags) shall be inspected before installation for holes, rips, or tears that would reduce the overall effectiveness of the packaging, and shall be installed into empty railcars in such a manner as to prevent tears or leaks from occurring.

PART 3 EXECUTION

3.1 ON-SITE HAZARDOUS AND RADIOLOGICAL WASTE MANAGEMENT

These paragraphs apply to Government-owned waste only. 10 U.S.C. 2692 prohibits contractors from storing contractor-owned hazardous waste on site for any length of time. The Contractor shall be responsible for ensuring compliance with all Federal, state, and local waste laws and regulations and shall verify those requirements when preparing reports, waste shipment records, project waste manifests, or other documents. The Contractor shall identify wastes generated by remediation activities using criteria set forth in 40 CFR 261 or all applicable federal, state and local laws, regulations, and ordinances.

The Contractor shall inspect any project generated waste management areas weekly and shall provide written documentation of the inspection. Inspection logs will contain date and time of inspection, name of individual conducting the inspection, problems noted, and corrective actions taken. The Contractor shall be responsible for ensuring compliance with all federal, state and local laws and regulations applicable to the handling and disposal of all project generated wastes.

Radioactive waste must be managed to ensure that it is not allowed to migrate out of the contamination area into an unrestricted area due to transport by air, surface water or other potential transport mediums.

3.1.1 Radiological Contaminated Materials

The Contractor, in conjunction with the Contracting Officer (or the designated representative), shall identify, manage, transport and dispose of all radiologically contaminated waste in accordance with all Federal and state laws, regulations and requirements including but not limited to 10 CFR 20 and EM-385-1-1 and the disposal facility requirements as provided to the Contractor by the Contracting Officer (or the designated representative).

Refer to Section 01351 – SAFETY, HEALTH, AND EMERGENCY RESPONSE (HTRW) for radiological waste characterization information.

3.1.2 Waste Management Plan

The Contractor shall prepare a Waste Management Plan (WMP) detailing the manner in which project wastes shall be managed and describe the types and volumes of project wastes anticipated to be managed as well as the management practices to be utilized.

The WMP shall identify the types of various wastes that may be encountered or generated during the field activities. In addition to the pile material, wastes that may be encountered or generated include (but are not limited to):

- PPE and trash;
- erosion control wastes;
- contaminated surface water;
- equipment decontamination fluids;
- equipment maintenance wastes; and
- contaminated equipment and debris.

The approach to managing waste streams identified in this WMP shall emphasize:

- management of the waste generated in a manner that is protective of human health and the environment;
- minimization of waste generation, thereby reducing unnecessary costs and usage of limited permitted storage and disposal capacities;
- compatibility with waste acceptance criteria for designated treatment/disposal facility; and
- compliance with federal, state, and USACE requirements.

The plan must address the type, quantity, concentration, and management and disposition of these waste materials. It should also contain contingency plans for the discovery of unknown materials and the safe handling of unknowns that might be encountered during remediation.

The plan will identify waste characterization procedures for all identified wastes streams. Process knowledge will typically be used to determine if the waste material should be considered potentially contaminated. Wastes that are designated as potentially contaminated will be sampled and analyzed to characterize and classify them for proper laboratory handling, record keeping, transfer, storage, and disposal. Waste analyses will be performed using U.S. Environmental Protection Agency (EPA)-approved procedures where applicable. Wastewater analyses will reference Clean Water Act and/or Safe Drinking Water Act procedures. Quality Assurance/Quality Control (QA/QC) requirements and chain-of-custody procedures will be followed for all sampling and analysis activities.

The plan shall identify the method to be used to ensure accurate piece counts and/or weights of shipments; shall identify waste minimization methods; shall propose facilities to be utilized for treatment, storage, and/or disposal; shall identify areas on-site where wastes are to be handled; shall identify whether transfer facilities are to be utilized; and if so, how the wastes will be tracked to ultimate disposal.

3.2 OFF-SITE WASTE MANAGEMENT

The Contractor shall use Envirocare for disposal of all radiologically contaminated soils under the existing USACE disposal contract. A copy of the disposal requirements contained in this contract will be provided to the Contractor by the Contracting Officer (or the designated representative) for inclusion in the Waste Management Plan. Off-site treatment, storage, and/or disposal facilities with significant compliance problems (such as facilities known to be releasing hazardous constituents into ground water, surface water, soil, or air) shall not be used.

3.2.1 Description of TSD Facility and Transporter

The Contractor shall provide the Contracting Officer (or the designated representative) with EPA ID numbers, names, locations, and telephone numbers of TSD facilities and transporters. This information shall be contained in the Waste Management Plan for approval prior to waste disposal.

3.2.2 Status of the Facility

Any hazardous wastes that may be generated must meet the facility specific limitations and waste acceptance criteria for disposal. Facilities receiving hazardous waste must be permitted in accordance with 40 CFR 270 or must be permitted by an authorized state program. Contractor must obtain approval from the Contracting Officer prior to initiating shipment.

3.2.3 Packaging Certification

Prior to shipment of project wastes or any hazardous material off-site, the Contractor's TDC shall provide written certification to the Contracting Officer or designee that all materials have been properly packaged, labeled, and marked in accordance with Department of Transportation and EPA requirements. The Contracting Officer or designee will sign the appropriate packaging and shipping documents for the USACE. An example of this certification shall be included in the Waste Management Plan. An individual file will be completed for each package of hazardous material shipped, which will be turned over to the USACE at the end of the project. Each file will contain (at a minimum) the volume calculations, activity spreadsheets, bills of lading, any non-hazardous manifests or shipping papers, the original signed waste manifest, signed receipt from Envirocare, certificate of disposal, railcar serial number, date of rail car delivery to site, incoming inspection report, date of loading, date of shipment, date of receipt at Envirocare, date of disposal, date railcar was released to the railroad, departure inspection or survey reports, and any associated quality-control or quality assurance records.

3.2.4 Transportation

The Contractor will use the appropriate characterization data (i.e. the average soils values from Table 3-4) from the "Hazelwood Interim Storage Piles Site Storage Piles Characterization Report," the Main Pile PDI, and/or samples or analyses from individual railcars or packages as input to calculations for determining shipping paper and manifest entries. Hazardous materials transportation shall comply with all requirements in the Department of Transportation referenced regulations in the 49 CFR series and as implemented by the Contractors Transportation Plan. The Contractor shall use the manifests acquired from the permitted disposal facility and they shall be completed according to the instructions and any applicable state or local law or regulation. The Contractor shall notify the USACE if any hazardous wastes or radioactive wastes are detected during this task. Completed manifests shall be submitted to Contracting Officer or designee for review, approval, and signature prior to the scheduled shipment. Notifications and scheduling information for the disposal site shall be submitted with the manifest.

3.2.5 Treatment and Disposal of Hazardous Wastes

Any hazardous waste generated by remediation activities shall be transported to an approved hazardous waste treatment, storage, or disposal (TSD) facility within 90 days of the accumulation start date on each container. The Contractor shall ship hazardous wastes only to facilities that are properly permitted to accept the hazardous waste or operating under interim status.

3.3 HAZARDOUS MATERIALS MANAGEMENT

The Contractor, in consultation with the Contracting Officer (or the designated representative), shall evaluate prior to shipment of any material off-site whether the material is regulated as a hazardous waste in addition to being regulated as a hazardous material under 49CFR; this shall be done for the purpose of determining proper shipping descriptions, marking requirements, etc., as described below. The HISS pile material will generally be classified as Class-9 (miscellaneous) hazardous material.

3.3.1 Identification of Proper Shipping Names

The Contractor shall use 49 CFR 172.101 to identify proper shipping names for each hazardous material (including hazardous wastes) to be shipped off-site. Proper shipping names shall be submitted to the Contracting Officer (or the designated representative) in the form of draft shipping documents for review and approval. The proper shipping name for HISS materials that exceed the RQ weight per package is expected to be, RQ, environmentally hazardous substance, solid, n.o.s., Class 9, UN-3077, pg III (Ra-226, Th-230, U-nat, ...) The proper shipping name for shipments that do not exceed the RQ is expected to be, Contaminated Soils, not DOT regulated.

3.3.2 Packaging, Labeling, and Marking

The Contractor shall package, label, and mark hazardous materials/wastes using the specified materials and in accordance with the referenced authorizations.

Bulk packaging in a covered low-side gondola railcar that will retain the contents under the normal conditions of transportation is assumed. Because of their limited number, the Contractor must order and schedule these in advance from the railroad. Each loaded railcar shall display the appropriate hazardous materials placard (Class-9 placards are assumed) on the front, back, and either side. Also, when required, each nonbulk package shall display the appropriate hazardous materials label including the hazardous waste label if required. Each rail gondola car will also display 3 labels, described in USACE EC-200-1-3, one on top and one on each side.

3.3.3 Shipping Documents

The Contractor shall ensure that each shipment of hazardous material sent off-site is accompanied by properly completed shipping documents including the disposal manifest and waste profiles as appropriate.

3.3.3.1 Other Hazardous Material Shipment Documents

The Contractor shall prepare a bill of lading for each shipment of hazardous material not otherwise properly described on a disposal manifest. The bill of lading shall satisfy the requirements of 49 CFR 172, Subpart C, and any applicable state or local law or regulation, and shall be submitted to the designated USACE representative for review, approval, and signature. The USACE will sign for time-sensitive shipments in timely fashion. For laboratory samples and treatability study samples, the Contractor shall prepare bills of lading and other documentation as necessary to satisfy conditions of the sample exclusions in 40 CFR 261, Section .4(d) and (e) and any applicable state or local law or regulation. All bills of lading shall be signed by the USACE Official.

3.4 OBTAINING EPA ID NUMBERS

The USACE has obtained EPA ID-number MOR-000038216 and Missouri ID-036405 to cover any hazardous wastes generated during this work. However, no hazardous wastes are expected to be encountered during the remediation activity, except that which may be generated by the Contractor. Carriers shall supply EPA ID numbers for inclusion in the hazardous waste manifest.

3.5 WASTE MINIMIZATION

The Contractor shall minimize the generation of solid or hazardous waste to the maximum extent practicable. This shall be a fundamental principle of the Contractors Waste Management Plan. The major effort will be to ensure that potentially contaminated solid materials are localized and do not come into contact with any clean media, which could create more potentially contaminated waste. Waste minimization will also be accomplished through waste segregation, selection of PPE, waste handling (spill control) and minimizing use of water in decontamination activities. Solid wastes such as Tyvek™ coveralls and packaging materials will be segregated. An attempt will be made to separate visibly soiled Tyvek™ coveralls from unsoiled ones. In some instances, partially soiled coveralls can be cut up and segregated. Other solid waste will not be allowed to contact potentially contaminated trench materials. Efforts will be made to keep Tyvek™ coveralls clean, reuse clean coveralls, and only wear coveralls when necessary. Proper waste handling and spill control techniques will help minimize waste, particularly around the decontamination areas where decontamination water must be contained. In addition, hoses used in the decontamination area will not be permitted to leak, which would create more wastewater to be disposed.

3.6 RECORD KEEPING

The Contractor shall be responsible for maintaining adequate records to support information provided to the Contracting Officer (or the designated representative) regarding exception reports, annual reports, and biennial reports. The Contractor shall keep records of railcar serial numbers, weights loaded, loading, shipping, receiving, unloading, and return dates. All hazardous materials shipping papers shall be retained for at least one year following the last shipment. All hazardous materials shipment files will be turned over the USACE Contracting Officer (or the designated representative) at the conclusion of the Work. Any hazardous waste manifests will be maintained for three years following in accordance with 40CFR262.40(a).

3.7 SPILL RESPONSE

The Contractor shall respond to any spill of project wastes or materials that are in the custody or care of the Contractor pursuant to this contract. Any direction from the Contracting Officer (or the designated representative) concerning a spill or release shall not be considered a change under the contract. The Contractor shall notify the Contracting Officer and comply with all applicable requirements of Federal, state, or local laws or regulations regarding any spill incident.

The Spill Response Plan to be prepared by the contractor will identify potential spill site locations, specific measures to be taken in case of a spill at each location, and what level of emergency spill response is expected from site personnel. The spill response equipment to be maintained at each location will also be specified in the plan, as well as the inspection frequency or other measures that will be performed to ensure that spill response equipment levels are adequately maintained through the entire project. The plan will also specify the emergency response training and qualification level that will be provided to site personnel, and how the contractor will assure that the personnel will not respond at levels beyond their training and qualification.

3.8 EMERGENCY CONTACTS

The Contractor shall be responsible for complying with the emergency contact provisions in 49 CFR 172.604. Whenever the Contractor ships project wastes or hazardous materials, the Contractor shall provide a 24-hour emergency response contact and phone number of a person knowledgeable about the hazardous materials being shipped and who has comprehensive emergency response and incident mitigation information for that material, or has immediate access to a person who possesses such knowledge and information. The phone must be monitored on a 24-hour basis at all times when the project wastes or hazardous materials are in transportation including during storage incidental to transportation. The Contractor shall ensure that information regarding this emergency contact and phone number, including the appropriate DOT Emergency Response Guide number, is placed on all hazardous materials shipping documents. The Contractor shall designate an emergency coordinator and post the following information at areas in which hazardous wastes are managed:

- a. The name of the emergency coordinator.
- b. Phone number through which the emergency coordinator can be contacted on a 24-hour basis.
- c. The telephone number of the local fire department.
- d. The location of fire extinguishers and spill control materials.
- e. Written instructions for notification in the event of any release during transportation to the permitted disposal facility.

END OF SECTION 02120

SECTION 02221**SOIL REMOVAL****PART 1 GENERAL****1.1 REFERENCES**Agricultural Marketing Service (AMS)

AMS-01 (Amended through August 1988) Federal Seed Act Regulations (Part 201-202)

1.2 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having and "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 – SUBMITTAL PROCEDURES:

SD-08 Statements

Removal, Grading and Restoration Plan; GA. – The Contractor shall submit an Excavation/Removal plan detailing the proposed steps for the Phase 1 removal of the Main Pile, perform final grading and restore the area. This plan shall specifically include information on the following:

- Equipment to be used
- Construction sequencing plan detailing specifically the approach to be taken to accomplish the removal in an efficient manner as well as a manner which will protect existing features, control storm water run-on and run-off, and protect contaminated and clean areas.
- Information regarding the location of erosion control facilities
- Information regarding equipment routing patterns within the construction limits
- Personnel to be used
- Details on how the removal and grading will be accomplished
- Information regarding how existing features will be protected
- Information regarding the construction of haul roads, if necessary. Information shall include details about the size of gravel, geofabric utilized, thickness of roadbed, location of road and maintenance procedures
- Information regarding how geotextile materials will be placed, including details on handling and seaming procedures.
- Information regarding how the pile will be protected after hours and during rain events. Details about the usage of the existing tarp and new tarps to protect the pile shall be discussed in detail. Information regarding how the south facing slope of the pile will be protected during the interim period until the Phase 2 removal action begins.
- Details about stormwater collection and how the Contractor intends to protect the site from run-on and run-off.
- Information about how the clean and contaminated areas will be separated and protected during removal activities.
- Final grading procedures
- Details about how topsoil material will be brought to site and placed appropriately.
- Information regarding seeding procedures including type of seed to be used and placement procedures.
- Blending Procedures.

1.3 SITE CONDITIONS

1.3.1 Utility Location and Identification

Due to the nature of the work it is not expected that any underground utilities will be encountered. However, it is still the Contractor's responsibility to ensure no utilities are encountered by contacting appropriate agencies or companies, such as Missouri One-Call System (800-344-7483), for utility locations and identification.

1.3.2 Environmental Requirements

Do not perform earthwork when weather conditions or the condition of materials are such, in the opinion of the Contracting Officer (or the designated representative), that work cannot be performed satisfactorily. The Contractor shall cease operations as directed by the Contracting Officer (or the designated representative) such as during precipitation events involving lightning. The waste pile shall be covered to the extent possible (not to interfere with continuing work) during all precipitation events to limit moisture exposure.

Plan work so as to provide adequate protection during storms with provisions available for preventing flood damage. Protect work against damage from high ground water levels.

Keep sewers, drains and ditches open for surface drainage. Divert all water from areas not within the work site around the removal area.

When it is necessary to haul soft or wet soil material over roadways, use suitably tight vehicles to prevent spillage. Clear away spillage of materials on roadways caused by hauling.

Do not dispose of water in the removal area by draining through completed portions of the site or uncontaminated areas.

1.3.3 Protection

The Contractor shall be responsible for identifying and protecting all overhead or underground public utility and private lines, pipes, conduits, structures and property of whatever nature. Damages and expenses for direct and indirect injury to such structures or to any person or property by work of this Contract, rest solely with the Contractor.

1.3.4 Pile Cover

The Contractor shall minimize the area of the Main Pile that is open at any time to prevent exposure of the waste to precipitation to minimize contaminated storm water, moisture in the waste, and dust emissions. The waste pile working areas shall be recovered with the existing synthetic cover when work therein is suspended or left unattended, such as at the end of a workday. The completed removal areas shall be covered with a new temporary non-permeable synthetic cover at the end of each day and removed as necessary for access to the pile only. All covers shall be capable of being anchored in place on a daily basis. Use caution with the existing cover to maintain its integrity as a water barrier throughout the project. If the existing cover degrades to the extent that it can no longer provide an adequate barrier, the Contractor shall be responsible for replacing the cover with another adequate water barrier. The existing synthetic cover (up to the Phase 1 removal line, see Contract Drawing C-2) and the new temporary cover used in executing the work shall be disposed of along with the waste material. Existing riprap shall be stockpiled as shown on the Contract Drawings.

1.3.6 Accommodation of Traffic

Do not obstruct roads in performance of work in this Section. **Do not obstruct fire hydrants.**

PART 2 PRODUCTS

2.1 TOPSOIL

Topsoil shall be obtained from a source approved by the USACE.

PART 3 EXECUTION

3.1 REMOVAL

The Contractor shall remove waste materials from the Main Pile as shown on the Contract Drawings. Excavations below the grades shown on the drawings will not be permitted. The slope of the pile surface shall not exceed 1V on 2H at the end of each workday. Prior to beginning removal activities, the Contractor shall complete a Field Safety Checklist (at the end of this section) and obtain the required signatures. The Contractor shall final grade and protect the removal area in accordance with provisions of this Section (paragraphs 3.4 – GRADING and 3.5 – PROTECTION). The Contractor shall notify the USACE if any unexpected hazardous wastes or radiological wastes are detected during the removal action.

3.1.1 BLENDING

The Contractor shall provide a plan for blending such that all soils shall have concentrations of less than 2000 pci/g in each railcar. This plan will indicate how blending will be accomplished based on available data, field surveys, and analytical constraints. The Contractor shall also make provisions for obtaining samples in each 100 square meters after achieving final grade.

3.1.2 REMOVAL UNIT PRICE

The unit of measurement for removal will be in-place cubic yards, computed by the difference in topographic surveys taken before and after the removal. The amount paid for will be the actual number of cubic yards of material, measured in its original position and removed from the pile, which is acceptably disposed of as herein specified. The measurement will not include the yardage removed without authorization or the yardage of any material not disposed of at Envirocare of Utah. The measurement will not include the amount of any removal performed prior to the taking of elevations and measurements of the undisturbed grade. The measurements will not include any grading or earthmoving required to construct temporary storage facilities or control drainage.

3.2 DRAINAGE AND DEWATERING

3.2.1 Drainage

Surface water shall be directed away from the removal area and directed to the existing ditch leading to outfall HN02, so as to prevent erosion or flooding of the area. Diversion ditches, dikes and grading shall be provided and maintained as necessary during construction. The open face of the removal area within the waste pile shall be protected to prevent erosion and sloughing. Removal shall be performed so that the site and the area immediately surrounding the site and affecting operations at the site shall be continually and effectively drained.

3.3 REMOVED MATERIALS

All material removed from the waste piles shall be disposed of as specified in Section 02120 – TRANSPORTATION AND DISPOSAL OF HAZARDOUS MATERIALS. Waste material placed in rail cars must be covered at the end of each workday and during inclement weather.

3.4 GRADING

Areas within the designated removal areas shall be removed true-to-grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted. Surface shall be finished not more than 0.10 feet above or below the established grade or approved cross section. No borrow materials shall be brought on site. Existing materials shall be used to achieve required grades.

3.5 PROTECTION

3.5.1 Newly graded areas

Newly graded areas shall be protected from traffic, erosion, and any settlement or washing. Prior to acceptance of the work, all erosion and drainage problems shall be repaired and grades reestablished to the required elevations and slopes. All work shall be conducted in accordance with the environmental protection requirements of this contract. Portions of the newly graded areas will become access road as determined by the Contracting Officer during removal activities. All newly graded areas not designated as access road shall be sodded according to SECTION 02935 – SOD. For purposes of bid preparation, the Contractor shall assume one third of the newly graded area will become access road and two thirds of the newly graded area will be sodded.

3.5.2 South facing Main Pile slope

The Contractor's Removal, Grading and Restoration Plan shall include the Contractor's proposed plan for protection of the south facing Main Pile slope (1V on 2H slope remaining at the end of the Phase 1 removal action) from erosion and washing during the interim period until the Phase 2 Main Pile removal action begins.

END OF SECTION 02221

ATTACHMENT

SAMPLE FIELD SAFETY CHECKLIST

Work Location _____
 Date _____

1. Reviewed work plans with Contracting Officer (or the designated representative).
2. Requested maps of above ground and underground utilities.
3. Reviewed utility maps (water supply, firewater, sewer, process sewer, electric, gas, telephone, navigational, other underground facilities).
4. Following utilities were identified based on Missouri One-Call System:

Name of utilities and their representatives:

UTILITY NAME	SIGNATURE OF UTILITY REPRESENTATIVE
--------------	-------------------------------------

5. Determine if any permits or approvals are required for work around existing utilities.

TYPE _____

6. Obtained necessary permits or approvals: _____
 YES or NO
 Permit expiration date _____

Removal Safety Sign-off Sheet (to be completed before removal activities commence):

Field location of the removal has been evaluated for clearance of underground utilities (e.g. electrical, sewers, firewater, and other piping) as well as clearance from overhead power lines (See EM 385-1-1, Table 11-3).

In addition, the SSHO and the pile removal foreman have familiarized themselves with the site's SSHP.

	PRINTED NAME	SIGNATURE
Site Superintendent _____		
Contracting Officer (or designated representative) _____		
Pile Removal Foreman _____		
SSHO _____		

Note: Removal activities will commence after all affected parties have signed this form.

SECTION 02272**SEPARATION/FILTRATION GEOTEXTILE****PART 1 GENERAL****1.1 REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

American Society For Testing And Materials (ASTM)

ASTM D 3786	(1987) Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics – Diaphragm Bursting Strength Tester Method
ASTM D 3787	Puncture Resistance
ASTM D 4354	(1996) Sampling of Geosynthetics for Testing
ASTM D 4355	(1992) Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
ASTM D 4439	(1995) Standard Terminology for Geotextiles
ASTM D 4491	(1992) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(1991) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1993) Determining Apparent Opening Size of a Geotextile
ASTM D 4833	(1988, R 1996) Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
ASTM D 4873	(1995) Identification, Storage, and Handling of Geotextiles

1.2 SUBMITTALS

Government approval is required for all submittals with a “GA” designation; submittals having and “FIO” designation are for information only. The following shall be submitted in accordance with Section 01330 – SUBMITTAL PROCEDURES:

SD-13 Certificates

Geotextile; FIO – A minimum of 14 days prior to scheduled use, the Contractor shall submit a certificate of compliance stating that the geotextile meets the requirements of this section. This submittal shall include copies of manufacturer's quality control test results. For needle punched geotextiles, the manufacturer shall also certify that the geotextile has been continuously inspected using permanent on-line full-width metal detectors and does not contain any needles which could damage other geosynthetic layers. A person having legal authority to bind the geotextile manufacturing company shall attest to the certificate of compliance.

1.3 DELIVERY, STORAGE AND HANDLING**1.3.1 General**

Geotextiles shall be labeled, handled, and stored in accordance with ASTM D 4873 and as specified herein. Each roll shall be wrapped in an opaque and waterproof layer of plastic during shipment and storage. The plastic wrapping shall not be removed until deployment. Each roll shall be labeled with the manufacturer's name, geotextile type, lot number, roll number, and roll dimensions (length, width, gross weight). Geotextile or plastic wrapping damaged as a result of

storage or handling shall be repaired or replaced, as directed. Geotextile shall not be exposed to temperatures in excess of 140 degrees F or less if recommended by the manufacturer.

1.3.2 Handling

No hooks, tongs or other sharp instruments shall be used for handling the geotextile. Geotextile shall not be dragged along the ground.

PART 2 PRODUCTS

2.1 RAW MATERIALS

2.1.1 Geotextile

The geotextile shall be a pervious sheet of polymeric material and shall consist of long-chain synthetic polymers composed of at least 85 percent by weight polyolefins, polyesters, or polyamides. Stabilizers and/or inhibitors shall be added to the base polymer if necessary to make the filaments resistant to deterioration by ultraviolet light, oxidation, and heat exposure. Regrind material that consists of edge trimming and other scraps that have never reached the consumer may be used to produce the geotextile. Post-consumer recycled material shall not be used. Geotextile shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including the selvages. The geotextile shall comply with ASTM D 4439, and shall consist of polymeric filaments that are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of zero to 120 degrees F.

The required geotextile physical properties for road stabilization, contamination barrier and silt fencing are detailed below.

Geotextile For Road Stabilization and Contamination Barrier

<u>Physical Property</u>	<u>Test Procedure</u>	<u>Strength Requirement</u>
Grab Tensile	ASTM D 4632	200 lbs. min.
Elongation (%)		30% max
Mullen Burst	ASTM D 3786	450 psi
Trapezoid Tear Strength	ASTM D 4533	115 lbs.
Puncture Resistance	ASTM D 3787	85 lbs.

Geotextile for Silt Fence

<u>Physical Property</u>	<u>Test Procedure</u>	<u>Strength Requirement</u>
Grab Tensile	ASTM D 4632	100 lbs. min.
Elongation (%)		30% max
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Mullen Burst	ASTM D 3786	270 lbs. min.
Permittivity	ASTM D 4491	0.2 sec ⁻¹
AOS (U.S. Std Sieve)	ASTM D 4751	20-100

2.1.2 Thread

Sewn seams shall be constructed with high-strength polyester, nylon, or other approved thread type. Thread shall have ultraviolet light stability equivalent to the geotextile and the color shall contrast with the geotextile.

2.2 TESTS, INSPECTIONS, AND VERIFICATIONS

2.2.1 Manufacturing, Sampling, and Testing

Geotextiles and factory seams shall meet requirements in order to maintain manufacturing quality control. Testing shall be performed in accordance with the manufacturer's approved quality control manual. As a minimum, geotextiles shall be randomly sampled for testing in accordance with ASTM D 4354 (Procedure A).

PART 3 EXECUTION

3.1 SURFACE PREPARATION

- 3.1.1 The surface underlying the geotextile shall be smooth and free of ruts or protrusions that could damage the geotextile.

3.2 SEAMING

3.2.1 Overlap Seams

Geotextile panels shall be continuously overlapped a minimum of 12 inches. Where it is required that seams be oriented across the slope, the upper sheet shall be lapped over the lower sheet. The Contractor has the option of field sewing instead of overlapping.

3.3 REPAIRS

Geotextile damaged during installation shall be repaired by placing a patch of the same type of geotextile which extends a minimum of 12 inches beyond the edge of the damage defect. Patches shall be continuously fastened using a sewn seam or other approved method. The machine direction of the patch shall be aligned with the machine direction of the geotextile being repaired. Geotextile which cannot be repaired shall be replaced.

END OF SECTION 02272

BLANK PAGE

SECTION 02935**SOD****PART 1 GENERAL****1.1 REFERENCES**

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

Illinois Department of Transportation (IDOT).

The material for, and construction of sodding shall conform to the provisions of the hereinafter cited section and as specified, articles of the IDOT, "Standard Specifications for Road and Bridge Construction" adopted January 1, 1997 except as noted herein. The term "Engineer" as used in the Standard Specifications shall be interpreted to mean "Contracting Officer."

1.2 SCOPE.

The work covered by this section consists of furnishing all plant, labor, equipment, and materials, and performing all operations necessary for sodding the areas specified herein.

1.3 QUALITY CONTROL.**1.3.1 General**

The Contractor shall establish and maintain quality control for all operations herein specified to assure compliance with contract specifications and shall maintain records of its quality control for all construction operations including but not limited to the following:

- (1) Preparation of ground surface.
- (2) Sodding
- (3) Watering

1.3.2 Reporting.

A copy of these records, as well as the records of corrective action taken, shall be furnished to the Government daily in accordance with Section - 01440, CONTRACTOR QUALITY CONTROL.

1.4 AREAS TO BE TREATED.

Sod shall be established on all newly excavated areas (at ground level) as described in Section 02221 - SOIL REMOVAL, Paragraph 3.5 - PROTECTION, Subparagraph 3.5.1 - Newly graded areas. All existing grass areas disturbed by construction operations shall be sodded.

1.5 COMMENCEMENT, PROSECUTION, AND COMPLETION.

Sodding operations shall not be performed when the ground is frozen or when the temperature is above 80° F.

PART 2 PRODUCTS**2.1 MATERIALS****2.1.1 Sod**

Sod shall be turf type fescue (Rebel II).

2.1.2 Water

Water shall be free from oil, acid, alkali, salt, etc. and shall be from an approved source prior to use.

PART 3 EXECUTION**3.1 SODDING TIMES AND CONDITIONS****3.1.1 Times and Conditions**

When all work under this contract is completed, except for the work required under this section, and such work is not performed because of the seasonal limitations stated in Section 02935-1.5; or because of conditions occurring within the specified sodding seasons which, in the opinion of the Contracting Officer (or the designated representative), are unfavorable for such work, the time for completion will be extended by the number of calendar days that this work is thereby delayed.

3.2 SITE PREPARATION

The Contractor Officer (or the designated representative) shall verify that finished grades are as indicated on the Contract Drawings.

3.3 SOD PLACEMENT

Sod shall be placed in accordance with the IDOT Specification - SECTION 252, SODDING, Articles 252.03 through 252.11

3.4 RESTORATION AND CLEAN UP**3.4.1 Restoration**

Existing turf areas, pavements and facilities that have been damaged from the sodding operations shall be restored to its original condition at Contractor's expense.

3.4.2 Clean Up

Excess and waste material shall be removed from the sodding operation and shall be disposed of off the site. Adjacent paved areas shall be cleaned.

3.5 PROTECTION OF SODDED AREAS

Immediately after sodding, the area shall be protected against traffic or other use by erecting barricades and providing signage as required, or as directed by the Contracting Officer (or the designated representative).

3.6 INSPECTION AND ACCEPTANCE

An inspection shall be held by the Contracting Officer (or the designated representative). Time for the inspection shall be established in writing.

Acceptance of sodded areas will be based upon having a dense, well rooted turf, capable of preventing all erosion. Sodded areas which show signs of erosion, ruts, etc. will not be acceptable. The sodded area shall be mowed to a height of three inches immediately prior to inspection.

END OF SECTION 02935

BLANK PAGE

SUBMITTAL REGISTER																	CONTRACT NO.								
TITLE LOCATION																	CONTRACTOR				SPECIFICATION SECTION				
HISS Main Pile Removal Action - Phase 1																					01440				
ACTIVITY NO. a.	TRANSMITTAL NO. b.	ITEM NO. c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL										CLASSIFICATION		CONTRACTOR SCHEDULE DATES			CONTRACTOR AWARD		GOVERNMENT ACTION		REMARKS aa.	
					DRAWINGS f.	INSTRUMENTS g.	STANDARD h.	STATE i.	CERTIFICATES j.	FIA k.	EPC l.	MR m.	O&M n.	INFORMATION o.	GOVERNANCE p.	REVIEW q.	SUBMIT r.	APPROVAL NEEDED s.	MATERIAL NEEDED BY t.	DATE v.	DATE w.	SUBMIT TO GOVERNMENT x.	CODE y.		DATE z.

(Eng Form 4288)

SPECIFICATION SECTION

HISS Main Pile Removal Action - Phase 1

02120

[illegible]

SECTION E Inspection and Acceptance

CLAUSES INCORPORATED BY REFERENCE:

52.246-4 Inspection Of Services--Fixed Price

AUG 1996

INSPECTION/ACCEPTANCE

The performance by the Contractor and the quality of work delivered, including documentation or written material in support thereof, shall be subject to inspection, review, and acceptance by the Contracting Officer or his/her authorized representative (COR). No inspector is authorized to change any provision of the specifications without written authorization of the Contracting Officer, nor shall the presence or absence of an inspector relieve the Contractor from any requirements of the contract. Formal acceptance will be made by the Contracting Officer or his/her authorized representative for and in behalf of the Government.

BLANK PAGE

SECTION F Deliveries or Performance

CLAUSES INCORPORATED BY REFERENCE:

52.242-15	Stop-Work Order	AUG 1989
52.242-17	Government Delay Of Work	APR 1984

BLANK PAGE

SECTION H Special Contract Requirements

CLAUSES INCORPORATED BY REFERENCE:

52.231-5000	Equipment Ownership and Operating Expense Schedule (Mar 1995)	MAY 1999
52.236-16	Quantity Surveys	APR 1984
52.249-5000	Basis for Settlement of Proposals	MAY 1999

CLAUSES INCORPORATED BY FULL TEXT

52.211-11 LIQUIDATED DAMAGES--SUPPLIES, SERVICES, OR RESEARCH AND DEVELOPMENT
(SEP 2000)

(a) If the Contractor fails to deliver the supplies or perform the services within the time specified in this contract, the Contractor shall, in place of actual damages, pay to the Government liquidated damages of \$1,105.00 per calendar day of delay.

(b) If the Government terminates this contract in whole or in part under the Default--Fixed-Price Supply and Service clause, the Contractor is liable for liquidated damages accruing until the Government reasonably obtains delivery or performance of similar supplies or services. These liquidated damages are in addition to excess costs of repurchase under the Termination clause.

(c) The Contractor will not be charged with liquidated damages when the delay in delivery or performance is beyond the control and without the fault or negligence of the Contractor as defined in the Default--Fixed-Price Supply and Service clause in this contract.

(End of clause)

52.222-42 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (MAY 1989)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

THIS STATEMENT IS FOR INFORMATION ONLY: IT IS NOT A WAGE DETERMINATION

Employee Class	Monetary Wage-Fringe Benefits
----------------	-------------------------------

Heavy Equipment Operator	\$22.91
Laborer	\$13.39
Teamster	\$21.99
Engineers	\$32.70
Engineering Tech	\$24.65
Superintendent	\$32.70
Site Safety and Health Officer	\$32.70
Supervisor, Health Physics Tech/Rad Tech	\$32.70
Health Physics Tech/Rad Tech	\$24.65
Quality Control Representative	\$22.55

NOTE: U. S. Department of Labor Wage Determination Number 1994-2309 (Revision No. 20, dated 9/15/2000) is applicable to this contract and is attached at Section J.

(End of clause)

52.232-5002 CONTINUING CONTRACTS (ALTERNATE) (MAR 1995)--EFARS

(a) Funds are not available at the inception of this contract to cover the entire contract price. The sum of \$5,000.00 has been reserved for this contract and is available for payment to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds, together with funds provided by one or more non-federal project sponsors will be reserved for this contract. The liability of the United States for payments beyond the funds reserved for this contract is contingent on the reservation of additional funds.

(b) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not be considered a breach of this contract, and shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (e) and (h) below.

(c) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(d) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under this contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(e) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. If and when sufficient additional funds are reserved, the contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of this contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(f) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under a "Suspension of Work" or similar clause or in any other manner under this contract.

(g) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(h) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be at no cost to the Government, except that, to the extent that additional funds to make payment therefore are allocated to this contract, it may be treated as a termination for the convenience of the Government.

(i) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under this contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(j) The term "Reservation" means monies that have been set aside and made available for payments under this contract.

(End of clause)

252.236-7001 CONTRACT DRAWINGS, MAPS, AND SPECIFICATIONS (AUG 2000)

(a) The Government will provide to the Contractor, without charge, one set of contract drawings and specifications, except publications incorporated into the technical provisions by reference, in electronic or paper media as chosen by the Contracting Officer.

(b) The Contractor shall--

- (1) Check all drawings furnished immediately upon receipt;
- (2) Compare all drawings and verify the figures before laying out the work;
- (3) Promptly notify the Contracting Officer of any discrepancies;
- (4) Be responsible for any errors that might have been avoided by complying with this paragraph (b); and
- (5) Reproduce and print contract drawings and specifications as needed.

(c) In general--

- (1) Large-scale drawings shall govern small-scale drawings; and
- (2) The Contractor shall follow figures marked on drawings in preference to scale measurements.

(d) Omissions from the drawings or specifications or the misdescription of details of work that are manifestly necessary to carry out the intent of the drawings and specifications, or that are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work. The Contractor shall perform such details as if fully and correctly set forth and described in the drawings and specifications.

(e) The work shall conform to the specifications and the contract drawings identified on the following index of drawings:

<u>Title</u>	<u>Drawing No.</u>
Cover Sheet	
Location Map and Index of Drawings	FU-HS-3/G-1
Existing Site Plan	FU-HS-3/C-1
Final Grading Plan	FU-HS-3/C-2
Cross Sections	FU-HS-3/C-3
Erosion Control and Miscellaneous Details	FU-HS-3/C-4

(End of clause)

CONTRACT PERFORMANCE

During the progress of the contract, if it becomes apparent that the Contractor is unable or unwilling to perform the work in accordance with contract specifications, he will acquire additional supplies, equipment, and personnel as may be required by the Contracting Officer or his/her authorized representative to insure that the work is accomplished. If any work performed hereunder is not in conformity with the requirements of this contract, the Government will have the right to require the Contractor to immediately take all necessary steps to insure future performance of the services in conformity with the requirements of the contract; and reduce the contract price to reflect the reduced value of the services performed. In the event the Contractor fails to promptly take necessary steps to insure future performance of the services in conformity with the requirements of the contract, the

Government will have the right to either (1) by contract or otherwise have the services performed in conformity with the contract requirements and charge to the Contractor any cost occasioned by the Government that is directly related to the performance of such services; or (2) terminate this contract for default as provided in the clause of this contract entitled "Default".

(End of clause)

COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK. The Contractor shall be required to:

- a. commence work under this contract within 15 calendar days after the date the Contractor receives the Notice to Proceed,
- b. prosecute said work diligently, and
- c. complete the entire work ready for use not later than 150 calendar days after the date the Contractor receives the Notice to Proceed. The time stated for completion shall include final cleanup of the premises.

(End of clause)

CONTRACTOR USE OF SITE.

- a. Right of Entry. The activities of the Contractor shall not interfere with the business operations of the landowner or its lessee at the site. The Contractor's activities shall not interfere with utility service at the site. No soil or other materials excavated or otherwise removed at the site will be made via any entrance or exit of the Stone Container Property on Latty Avenue.
- b. The Contractor will have access of the site designated on the contract drawings as being within the "contract limits." Support facilities, trailers and staging areas required for completion of the work shall be contained within the designated "contract limits."
- c. The contractor shall be responsible for the clean and orderly upkeep of the site.

(End of clause)

PAY REQUESTS.

Pay requests authorized in the Contract Clause entitled "Payments", will be paid pursuant to the clause entitled "Prompt Payment". Pay requests shall be submitted on ENG Form 93 and 93a, "Payment Estimate-Contract Performance" and "Continuation", respectively. All information and substantiation required by the identified contract clauses shall be submitted with the ENG Form 93, and the required certification shall be included on the last page of the ENG Form 93a, signed by an authorized official of the Contractor and dated when signed. The designated billing office is the Office of the Area Engineer.

(End of clause)

PHYSICAL DATA.

Data and information furnished or referred to below is furnished for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

a. Physical Conditions. The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys and borings. Information regarding these borings and other test results are available for inspection upon 48 hours notice at the Dept. of the Army, St. Louis District, Corps of Engineers, 1222 Spruce Street, St. Louis, Missouri.

b. Weather Conditions. Information with respect to temperatures and precipitation may be obtained from the National Weather Service.

(End of clause)

RIGHT-OF-WAY.

a. Right-of-way for construction purposes will be furnished by the Government without cost to the Contractor. Where right-of-way for access to a work site is not available over existing public roads, access through private lands as shown on the contract drawings will be furnished by the Government without cost to the Contractor. If the right-of-way furnished for access is used, the Contractor will be required at its own expense, to do all work necessary to make such right-of-way suitable for traveling to and from the work site without interrupting the existing drainage. Upon completion of the contract work, any such access roadway and right-of-way furnished by the Government shall be left in a condition satisfactory to the Contracting Officer.

b. The Contractor shall procure without expense to the Government all additional lands, access roads, or right-of-way necessary for its use in the performance of the work. Any agreements or permits with levee boards, counties, or political subdivisions for moving material and equipment will also be the responsibility of the Contractor. Any delays to the Contractor resulting from delays in procuring such additional lands, access roads, right-of-way, or permits for moving material and equipment for its own use will not be made a basis of any claim for increases in the cost of performance of the work. The Contractor shall make its own investigations to determine the conditions, restrictions, and difficulties that may be encountered in the transportation of material and equipment to the work sites shown on the drawings

(End of clause)

REQUIREMENTS OF REGULATORY AGENCIES. The Contractor at all times shall observe and comply with all Federal and State laws and regulations, and local bylaws, ordinances and regulations in any matter affecting the conduct of the work or applying to employees on the project, as well as safety precautions and orders or decrees which have been promulgated or enacted, or which may be promulgated or enacted, by legal bodies or tribunal having authority or jurisdiction over the work, materials, equipment, or employees. The duty of enforcement of all said laws or ordinances, regulations, orders or decrees lies with the body or agency promulgating them.

State of Missouri:

The Contractor shall conduct Work in complete compliance with all rules, regulations and requirements of the Missouri Department of Natural Resources (MDNR) and the Missouri Department of Labor and Industry.

Utilities:

If during execution of the Work, telephone, electric, television cables, gas, oil, water, sewer or communication lines are encountered, no removal shall be done around those lines without the presence of an authorized representative from the authority having jurisdiction. The Contractor shall contact the Contracting Officer if unexpected utilities are encountered.

(End of clause)

DAMAGE TO WORK.

The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause entitled "Permits and Responsibilities." However, if in the judgment of the Contracting Officer any part of the permanent work performed by the Contractor is damaged by flood or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make the repairs as ordered by the Contracting Officer and full compensation for such repairs will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If in the opinion of the Contracting Officer there are no contract unit or lump sum prices applicable to any part of such work, an equitable adjustment pursuant to the Contract Clause entitled, "Changes," of the contract will be made as full compensation for the repairs of that part of the permanent work for which there are no applicable contract unit or lump sum prices. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment, and plant shall be repaired to the satisfaction of the Contracting Officer at the Contractor's expense, regardless of the cause of such damage.

(End of clause)

SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1.

Safety and Health Requirements Manual EM 385-1-1, dated September 3, 1996, forms a part of these specifications.

(End of clause)

ACCIDENT INVESTIGATIONS AND REPORTING.

Refer to EM 385-1-1, Paragraph 01.D. Accidents shall be investigated and reports completed by the immediate supervisor of the employee(s) involved and reported to the Contracting Officer or an authorized representative within one working day after the accident occurs. The accident Investigation report shall be made on ENG Form 3394.

(End of clause)

ACCIDENT PREVENTION PROGRAM.

Refer to Contract Clause FAR 52.236-13 entitled, "Accident Prevention". Within 15 days after receipt of Notice of Award of the contract, and at least 7 days prior to the prework conference, the original and one copy of the Accident Prevention Program shall be submitted to the Contracting Officer for review. The program shall be prepared in the following format:

- a. An executed LMV Form 358R, Administrative Plan.
- b. An executed LMV Form 359R, Activity Hazard Analysis.
- c. A copy of company policy statement of accident prevention and any other guidance statements normally provided new employees. Each company employee shall be required to sign the company policy statement of accident prevention to verify that all employees have been informed of the safety program, and such signed statements shall be maintained at the project site.
- d. When marine plant and equipment are in use under a contract, the method of fuel oil transfer shall be included on LMV Form 414R, Fuel Oil Transfer (refer to 33 CFR 156).

The Contractor shall not commence physical work at the site until the program has been reviewed and found acceptable by the Contracting Officer, or an authorized representative. At the Contracting Officer's discretion, the Contractor may submit its Activity Hazard Analysis only for the first phase of construction provided that it is accompanied by an outline of the remaining phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. Also refer to Section 1 of EM 385-1-1.

(End of clause)

DAILY INSPECTIONS.

The Contractor shall perform daily safety and radiation inspections and record them on the forms approved by the Contracting Officer. Reports of daily inspections shall be maintained at the job site. The reports shall be records of the daily inspections and resulting actions. Each report shall include, as a minimum, the following:

- a. Phase(s) of construction underway during the inspection.
- b. Locations of areas inspections were made.
- c. Results of inspection, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

(End of clause)

ENVIRONMENTAL LITIGATION.

a. If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor or a Subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the Contract Clause entitled "Suspension of Work". The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

b. The term "environmental litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

(End of clause)

TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER.

a. This provision specifies the procedure for the determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled, "Default (Fixed-Price Supply and Service)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON (5) DAY WORK WEEK

<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
(6)	(6)	(8)	(8)	(8)	(7)	(6)	(6)	(6)	(6)	(6)	(6)

c. Upon acknowledgement of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Contract Clause entitled "Default (Fixed Price Supply and Service)".

(End of clause)

SUBCONTRACTS. In accordance with the Contract Clause entitled "Subcontracts", the Contractor shall, within seven days after the award of any subcontract by the Contractor or a Subcontractor, deliver to the Contracting Officer two copies of a completed Standard Form 1413. Both copies must contain the original signatures of both parties.

(End of clause)

REQUIRED INSURANCE - WORK ON A NON-GOVERNMENT INSTALLATION.

a. The Contractor shall, at its own expense, provide and maintain during the entire performance period of this contract at least the kinds and minimum amounts of insurance required in the following schedule:

(1) Workmen's Compensation. Coverage complying with applicable State statute.

(2) Employer's Liability Insurance. Minimum amount of \$1 Million.

(3) Comprehensive General Liability Insurance. Minimum limits of \$1 Million per occurrence for bodily injury but a limit of \$2 Million total; and \$1 Million per occurrence for property damage.

(4) Comprehensive Automobile Insurance. Minimum limits of \$200,000 per person and \$500,000 per occurrence for bodily injury, and \$20,000 per occurrence for property damage.

(5) Pollution Liability. HTRW Contractors must generally insure themselves against causing increased pollution as a result of their construction activities. This requires that they procure adequate protection in the form of pollution liability insurance. However, on some HTRW jobs funded by Environmental Protection Agency (EPA), pollution liability insurance coverage may not be required if EPA indemnifies the contract. Indemnification basically holds the Contractor harmless against liability resulting from release of a hazardous substance as a result of the construction activities for a period of 10 years. If the contract is not indemnified, a cost for pollution liability insurance must be included in the estimate (unless the premiums are reimbursed by EPA to the Contractor) to cover that portion of the project that may be subject to pollution liability. Rates for pollution liability insurance are generally on a sliding scale with smaller insurance policies requiring a greater premium percentage. Table 10-1 serves as an example of pollution liability premium costs:

Table 10-1. Pollution liability insurance cost

<u>Contract Amount</u>	<u>Pollution Liability Insurance Cost (% of Contract Amount)</u>
Up to \$1,000,000	2.0%
\$1,000,000 to \$5,000,000	1.2%
\$5,000,000 to \$15,000,000	0.8%
Over \$15,000,000	0.7%

Coverage amounts and rates periodically change and should be verified by obtaining quotes from insurance companies.

b. Within 15 days after receipt of Notice of Award and before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

c. The Contractor shall insert the substance of this clause, including this paragraph c, in subcontracts under this contract and shall require subcontractors to provide and maintain the insurance required in paragraph a above. The Contractor shall maintain a copy of all subcontractor's proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

d. Statements of insurance should be submitted to the following address:
 U.S. Army Corps of Engineers
 St. Louis District – FUSRAP Project Office
 8945 Latty Avenue
 Attn: CEMVS-CO-CF
 Berkeley, Missouri 63134

(End of clause)

PROTECTION OF MATERIAL AND WORK.

The Contractor shall at all times protect and preserve all materials, supplies, and equipment of every description (including property which may be Government-furnished or owned) and all work performed. All reasonable requests of the Contracting Officer to enclose or specially protect such property shall be complied with. If, as determined by the Contracting Officer, material, equipment, supplies, and work

performed are not adequately protected by the Contractor, such property may be protected by the Government and the cost thereof may be charged to the Contractor or deducted from any payments due to the Contractor.

(End of clause)

CONTAMINATION OF WATER.

In addition to the requirements set forth in 01130-3.2, Protection of Water Resources, the Contractor shall take positive protective measures to prevent spillage of potential pollutant materials such as fuel, emulsion materials, chemicals etc., from storage containers or equipment, into lakes or tributary waters. Such positive protective measures may include, but not limited to, the following:

- (1) A berm enclosure of sufficient capacity to contain such materials.
- (2) Security measures to prevent acts of vandalism, which could result in spillage of such materials (fences, guards, etc.).
- (3) Storage of such materials in an area where the terrain would preclude leakage into lake or tributary waters.
- (4) Utilization of secure Government storage areas if the Contracting Officer indicates such space is available. No storage past immediate needs (2 days) without the consent of the Contracting Officer.

The Contractor shall submit its proposals for implementing the above provisions in accordance with 01130-1.5, Environmental Protection Plan.

(End of clause)

ORDER AND COORDINATION OF WORK.

The Contractor shall develop a work sequence plan, subject to the approval of the Contracting Officer that incorporates the following requirements:

- a. All required erosion, stormwater, and other water control measures shall be in place prior to initiating any stock pile removal or incidental excavation.
- b. Only the area in the immediate vicinity of the Main Pile footprint shall be considered contaminated. The Contractor shall ensure that the access road and load out pad remain clean.
- c. Only half of the Main Pile is to be removed in this Phase 1 Removal Action and there are special requirements regarding protection of the remainder of the pile until the Phase 2 contract begins.
- d. The Contractor is responsible for all coordination required for the transportation of the waste to the disposal facility. The Contractor shall ensure all shipments are packaged and transported in accordance with Department of Transportation Standards (49 CFR). The Contractor shall inspect gondola cars for containment integrity, ensure waste packaging is sufficient to maintain a moisture content suitable to meet the waste acceptance criteria of the disposal facility, schedule the rail cars for loading and transportation, ensure the acceptance of the waste at the disposal facility, and originate and maintain all documentation necessary for transportation to an approved disposal facility.
- e. Multiple contractors will be on the site. Contractors shall coordinate with one another in order to minimize impact to their operations.

(End of clause)

PARTNERING.

In order to most effectively accomplish this contract, the Government is willing to form a cohesive partnership with the Contractor. This partnership would strive to draw on the strengths of each organization in an effort to achieve a quality project done right the first time, within budget, and on schedule. This partnership would be bilateral in make-up and partnership will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by all parties and will be shared equally with no change in contract price.

(End of clause)

CHANGES IN PERFORMANCE OF WORK AS NEGOTIATED.

The Contractor shall beforehand notify the Contracting Officer, in writing, of any change or substitution in utilization of a subcontractor, supplier, etc., from that which was relied on by the Government during the cost and pricing negotiation. Such notification shall include:

- 1) the name of the new subcontractor, supplier, etc.;
- 2) the work to be performed or material supplied;
- 3) the reason for the substitution and;
- 4) whether the Contractor's costs will remain the same, increase, or decrease as a result of the change.

This notification shall also be applicable if the change results in work to be performed or material or equipment to be supplied by the Contractor itself.

BLANK PAGE

SECTION I Contract Clauses

CLAUSES INCORPORATED BY REFERENCE:

252.201-7000	Contracting Officer's Representative	DEC 1991
52.202-1	Definitions	OCT 1995
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	JUL 1995
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 1997
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	MAR 1999
52.204-4	Printing/Copying Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	JUL 1995
252.209-7000	Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate Range Nuclear Forces (INF) Treaty	NOV 1995
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	DEC 1998
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	OCT 1997
52.219-8	Utilization of Small Business Concerns	OCT 2000
52.219-14	Limitations On Subcontracting	DEC 1996
52.222-3	Convict Labor	AUG 1996
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	SEP 2000
52.222-26	Equal Opportunity	FEB 1999
52.222-35	Affirmative Action For Disabled Veterans And Veterans of the Vietnam Era	APR 1998
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Disabled Veterans And Veterans Of The Vietnam Era	JAN 1999
52.222-41	Service Contract Act Of 1965, As Amended	MAY 1989
52.222-44	Fair Labor Standards And Service Contract Act - Price Adjustment	MAY 1989
52.223-3	Hazardous Material Identification And Material Safety Data	JAN 1997
52.223-5	Pollution Prevention and Right-to-Know Information	APR 1998
52.223-6	Drug Free Workplace	JAN 1997
252.223-7004	Drug Free Work Force	SEP 1988
252.223-7006	Prohibition On Storage And Disposal Of Toxic And Hazardous Materials	APR 1993
52.225-13	Restrictions on Certain Foreign Purchases	JUL 2000
52.227-1	Authorization and Consent	JUL 1995

52.229-4	Federal, State And Local Taxes (Noncompetitive Contract)	JAN 1991
52.230-2	Cost Accounting Standards	APR 1998
52.230-3	Disclosure And Consistency Of Cost Accounting Practices	APR 1998
52.230-6	Administration of Cost Accounting Standards	NOV 1999
252.231-7000	Supplemental Cost Principles	DEC 1991
52.232-1	Payments	APR 1984
52.232-8	Discounts For Prompt Payment	MAY 1997
52.232-11	Extras	APR 1984
52.232-17	Interest	JUN 1996
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	JUN 1997
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	MAY 1999
52.233-1	Disputes	DEC 1998
52.233-3	Protest After Award	AUG 1996
52.236-13 Alt I	Accident Prevention (Nov 1991) - Alternate I	NOV 1991
52.242-13	Bankruptcy	JUL 1995
52.243-1 Alt II	Changes--Fixed-Price (Aug 1987) - Alternate II	APR 1984
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
52.244-5	Competition In Subcontracting	DEC 1996
52.246-25	Limitation Of Liability--Services	FEB 1997
252.247-7023	Transportation of Supplies by Sea	MAR 2000
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000
52.248-1	Value Engineering	FEB 2000
52.249-2	Termination For Convenience Of The Government (Fixed-Price)	SEP 1996
52.249-8	Default (Fixed-Price Supply & Service)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991

CLAUSES INCORPORATED BY FULL TEXT

52.252-2 -- Clauses Incorporated by Reference (Feb 1998).

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

www.arnet.gov/far

(End of Clause)

52.215-19 NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall--

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

252.219-7009 SECTION 8(A) DIRECT AWARD (JUN 1998)

(a) This contract is issued as a direct award between the contracting office and the 8(a) Contractor pursuant to the Memorandum of Understanding dated May 6, 1998, between the Small Business Administration (SBA) and the Department of Defense. Accordingly, the SBA is not a party to this contract. SBA does retain responsibility for 8(a) certification, for 8(a) eligibility determinations and related issues, and for providing counseling and assistance to the 8(a) Contractor under the 8(a) Program. The cognizant SBA district office is:

U. S. Small Business Administration – Boise District Office
1020 Main Street, Suite 290
Boise, Idaho 83702

(b) The contracting office is responsible for administering the contract and for taking any action on behalf of the Government under the terms and conditions of the contract; provided that the contracting office shall give advance notice to the SBA before it issues a final notice terminating performance, either in whole or in part, under the contract. The contracting office also shall coordinate with the SBA prior to processing any novation agreement. The contracting office may assign contract administration functions to a contract administration office.

(c) The Contractor agrees that--

(1) It will notify the Contracting Officer, simultaneous with its notification to the SBA (as required by SBA's 8(a) regulations at 13 CFR 124.308), when the owner or owners upon whom 8(a) eligibility is based plan to relinquish ownership or control of the concern. Consistent with Section 407 of Pub. L. 100-656, transfer of ownership or control shall result in termination of the contract for convenience, unless the SBA waives the requirement for termination prior to the actual relinquishing of ownership and control; and

(2) It will not subcontract the performance of any of the requirements of this contract without the prior written approval of the SBA and the Contracting Officer.

(End of Clause)

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (OCT 1998)

(a) Definitions.

"Commercial item", as used in this clause, has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) Notwithstanding any other clause of this contract, the Contractor is not required to include any FAR provision or clause, other than those listed below to the extent they are applicable and as may be required to establish the reasonableness of prices under Part 15, in a subcontract at any tier for commercial items or commercial components:

(1) 52.222-26, Equal Opportunity (E.O. 11246);

(2) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212(a));

(3) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C. 793); and

(4) 52.247-64, Preference for Privately-Owned U.S.-Flagged Commercial Vessels (46 U.S.C. 1241)(flow down not required for subcontracts awarded beginning May 1, 1996).

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

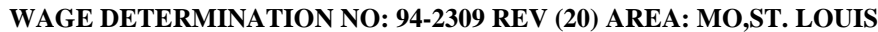
SECTION J List of Documents, Exhibits and Other Attachments

PLEASE NOTE: Except for the attachments listed below, attachments may be found following the section in which they are referenced.

Wage Determination No. 1994-2309 (Revision 20, dated 9/15/00)

Design Authentication relative to Drawings listed in Section C, 01010-1.

BLANK PAGE



William W. Gross	Division of	Wage Determination No.: 1994-2309
Director	Wage Determinations	Revision No.: 20
		Date Of Last Revision: 09/15/2000

Fringe Benefits Required Follow the Occupational Listing	
OCCUPATION TITLE	MINIMUM WAGE RATE
Administrative Support and Clerical Occupations	
Accounting Clerk I	10.12
Accounting Clerk II	11.01
Accounting Clerk III	13.17
Accounting Clerk IV	16.88
Court Reporter	11.45
Dispatcher, Motor Vehicle	12.79
Document Preparation Clerk	9.88
Duplicating Machine Operator	9.88
Film/Tape Librarian	9.90
General Clerk I	8.29
General Clerk II	9.95
General Clerk III	11.34
General Clerk IV	14.03
Housing Referral Assistant	15.46
Key Entry Operator I	8.19
Key Entry Operator II	9.53
Messenger (Courier)	8.31
Order Clerk I	8.53
Order Clerk II	10.99
Personnel Assistant (Employment) I	10.47
Personnel Assistant (Employment) II	11.76
Personnel Assistant (Employment) III	13.99
Personnel Assistant (Employment) IV	15.53
Production Control Clerk	15.48
Rental Clerk	11.37
Scheduler, Maintenance	11.37
Secretary I	11.37
Secretary II	13.14
Secretary III	15.46
Secretary IV	19.22
Secretary V	23.47
Service Order Dispatcher	11.06
Stenographer I	10.46

Stenographer II	11.66
Supply Technician	19.22
Survey Worker (Interviewer)	11.45
Switchboard Operator-Receptionist	8.67
Test Examiner	13.14
Test Proctor	13.14
Travel Clerk I	8.37
Travel Clerk II	9.02
Travel Clerk III	9.62
Word Processor I	10.30
Word Processor II	11.88
Word Processor III	15.18
Automatic Data Processing Occupations	
Computer Data Librarian	9.70
Computer Operator I	8.99
Computer Operator II	11.20
Computer Operator III	15.00
Computer Operator IV	16.96
Computer Operator V	18.47
Computer Programmer I (1)	15.68
Computer Programmer II (1)	15.80
Computer Programmer III (1)	18.63
Computer Programmer IV (1)	24.52
Computer Systems Analyst I (1)	20.73
Computer Systems Analyst II (1)	24.62
Computer Systems Analyst III (1)	27.62
Peripheral Equipment Operator	9.70
Automotive Service Occupations	
Automotive Body Repairer, Fiberglass	19.47
Automotive Glass Installer	17.92
Automotive Worker	17.92
Electrician, Automotive	18.69
Mobile Equipment Servicicer	16.35
Motor Equipment Metal Mechanic	19.47
Motor Equipment Metal Worker	17.92
Motor Vehicle Mechanic	18.29
Motor Vehicle Mechanic Helper	15.18
Motor Vehicle Upholstery Worker	17.13
Motor Vehicle Wrecker	17.92
Painter, Automotive	18.69
Radiator Repair Specialist	17.92
Tire Repairer	15.80
Transmission Repair Specialist	19.47
Food Preparation and Service Occupations	
Baker	10.97
Cook I	10.02
Cook II	10.97
Dishwasher	7.97
Food Service Worker	7.59
Meat Cutter	11.37
Waiter/Waitress	7.85
Furniture Maintenance and Repair Occupations	
Electrostatic Spray Painter	18.69
Furniture Handler	12.84
Furniture Refinisher	18.69
Furniture Refinisher Helper	15.18
Furniture Repairer, Minor	17.13
Upholsterer	18.69
General Services and Support Occupations	
Cleaner, Vehicles	7.43
Elevator Operator	8.15
Gardener	11.52
House Keeping Aid I	7.25
House Keeping Aid II	7.90

Janitor	7.90
Laborer, Grounds Maintenance	9.03
Maid or Houseman	7.25
Pest Controller	12.05
Refuse Collector	8.15
Tractor Operator	10.80
Window Cleaner	8.75
Health Occupations	
Dental Assistant	11.81
Emergency Medical Technician (EMT)/Paramedic/Ambulance Driver	12.00
Licensed Practical Nurse I	11.72
Licensed Practical Nurse II	13.13
Licensed Practical Nurse III	14.70
Medical Assistant	9.36
Medical Laboratory Technician	10.76
Medical Record Clerk	10.76
Medical Record Technician	12.97
Nursing Assistant I	7.04
Nursing Assistant II	7.74
Nursing Assistant III	8.33
Nursing Assistant IV	9.36
Pharmacy Technician	11.66
Phlebotomist	9.89
Registered Nurse I	14.97
Registered Nurse II	18.31
Registered Nurse II, Specialist	18.31
Registered Nurse III	22.15
Registered Nurse III, Anesthetist	22.15
Registered Nurse IV	26.55
Information and Arts Occupations	
Audiovisual Librarian	16.74
Exhibits Specialist I	14.81
Exhibits Specialist II	18.11
Exhibits Specialist III	19.51
Illustrator I	14.81
Illustrator II	18.11
Illustrator III	19.51
Librarian	20.44
Library Technician	11.45
Photographer I	13.20
Photographer II	14.81
Photographer III	18.11
Photographer IV	19.51
Photographer V	23.60
Laundry, Dry Cleaning, Pressing and Related Occupations	
Assembler	6.48
Counter Attendant	6.48
Dry Cleaner	8.26
Finisher, Flatwork, Machine	6.48
Presser, Hand	6.48
Presser, Machine, Drycleaning	6.48
Presser, Machine, Shirts	6.48
Presser, Machine, Wearing Apparel, Laundry	6.48
Sewing Machine Operator	8.84
Tailor	9.41
Washer, Machine	7.13
Machine Tool Operation and Repair Occupations	
Machine-Tool Operator (Toolroom)	18.69
Tool and Die Maker	21.97
Material Handling and Packing Occupations	
Forklift Operator	14.38
Fuel Distribution System Operator	16.35
Material Coordinator	17.39
Material Expediter	17.39

Material Handling Laborer	17.50
Order Filler	11.74
Production Line Worker (Food Processing)	13.62
Shipping Packer	11.81
Shipping/Receiving Clerk	11.81
Stock Clerk (Shelf Stocker; Store Worker II)	12.72
Store Worker I	9.55
Tools and Parts Attendant	14.23
Warehouse Specialist	12.16
Mechanics and Maintenance and Repair Occupations	
Aircraft Mechanic	19.47
Aircraft Mechanic Helper	15.18
Aircraft Quality Control Inspector	20.24
Aircraft Servicer	17.13
Aircraft Worker	17.92
Appliance Mechanic	18.69
Bicycle Repairer	15.80
Cable Splicer	19.47
Carpenter, Maintenance	19.06
Carpet Layer	20.29
Electrician, Maintenance	22.07
Electronics Technician, Maintenance I	17.22
Electronics Technician, Maintenance II	20.45
Electronics Technician, Maintenance III	20.61
Fabric Worker	17.13
Fire Alarm System Mechanic	19.74
Fire Extinguisher Repairer	16.35
Fuel Distribution System Mechanic	19.74
General Maintenance Worker	17.33
Heating, Refrigeration and Air Conditioning Mechanic	19.74
Heavy Equipment Mechanic	19.74
Heavy Equipment Operator	21.59
Instrument Mechanic	19.74
Laborer	10.31
Locksmith	18.69
Machinery Maintenance Mechanic	17.58
Machinist, Maintenance	21.31
Maintenance Trades Helper	15.18
Millwright	19.52
Office Appliance Repairer	18.69
Painter, Aircraft	18.69
Painter, Maintenance	18.69
Pipefitter, Maintenance	24.16
Plumber, Maintenance	21.41
Pneudraulic Systems Mechanic	19.47
Rigger	19.47
Scale Mechanic	17.92
Sheet-Metal Worker, Maintenance	19.97
Small Engine Mechanic	17.92
Telecommunication Mechanic I	19.47
Telecommunication Mechanic II	20.24
Telephone Lineman	19.47
Welder, Combination, Maintenance	19.47
Well Driller	19.47
Woodcraft Worker	19.47
Woodworker	16.35
Miscellaneous Occupations	
Animal Caretaker	9.19
Carnival Equipment Operator	10.80
Carnival Equipment Repairer	11.52
Carnival Worker	7.62
Cashier	6.38
Desk Clerk	7.28
Embalmer	18.25

Lifeguard	6.97
Mortician	15.94
Park Attendant (Aide)	8.75
Photofinishing Worker (Photo Lab Tech., Darkroom Tech)	6.97
Recreation Specialist	12.33
Recycling Worker	10.80
Sales Clerk	6.97
School Crossing Guard (Crosswalk Attendant)	7.32
Sport Official	6.97
Survey Party Chief (Chief of Party)	10.60
Surveying Aide	6.38
Surveying Technician (Instr. Person/Surveyor Asst./Instr.)	8.75
Swimming Pool Operator	11.02
Vending Machine Attendant	9.39
Vending Machine Repairer	10.97
Vending Machine Repairer Helper	9.39
Personal Needs Occupations	
Child Care Attendant	7.01
Child Care Center Clerk	9.75
Chore Aid	7.26
Homemaker	10.84
Plant and System Operation Occupations	
Boiler Tender	19.47
Sewage Plant Operator	18.69
Stationary Engineer	19.47
Ventilation Equipment Tender	15.18
Water Treatment Plant Operator	18.69
Protective Service Occupations	
Alarm Monitor	13.68
Corrections Officer	14.49
Court Security Officer	15.21
Detention Officer	14.49
Firefighter	15.49
Guard I	8.65
Guard II	15.73
Police Officer	17.54
Stevedoring/Longshoremen Occupations	
Blocker and Bracer	16.40
Hatch Tender	14.26
Line Handler	14.26
Stevedore I	14.61
Stevedore II	15.94
Technical Occupations	
Air Traffic Control Specialist, Center (2)	26.13
Air Traffic Control Specialist, Station (2)	18.03
Air Traffic Control Specialist, Terminal (2)	19.86
Archeological Technician I	13.07
Archeological Technician II	14.62
Archeological Technician III	18.11
Cartographic Technician	20.83
Civil Engineering Technician	18.45
Computer Based Training (CBT) Specialist/ Instructor	20.73
Drafter I	13.42
Drafter II	15.17
Drafter III	18.43
Drafter IV	20.83
Engineering Technician I	12.69
Engineering Technician II	14.26
Engineering Technician III	16.82
Engineering Technician IV	22.31
Engineering Technician V	26.60
Engineering Technician VI	33.01
Environmental Technician	19.51
Flight Simulator/Instructor (Pilot)	24.62

Graphic Artist	20.73
Instructor	20.94
Laboratory Technician	17.24
Mathematical Technician	19.41
Paralegal/Legal Assistant I	12.69
Paralegal/Legal Assistant II	16.74
Paralegal/Legal Assistant III	19.80
Paralegal/Legal Assistant IV	23.96
Photooptics Technician	22.31
Technical Writer	24.52
Unexploded (UXO) Safety Escort	16.61
Unexploded (UXO) Sweep Personnel	16.61
Unexploded Ordnance (UXO) Technician I	16.61
Unexploded Ordnance (UXO) Technician II	20.10
Unexploded Ordnance (UXO) Technician III	24.09
Weather Observer, Combined Upper Air and Surface Programs (3)	15.51
Weather Observer, Senior (3)	16.96
Weather Observer, Upper Air (3)	15.51
Transportation/ Mobile Equipment Operation Occupations	
Bus Driver	14.40
Parking and Lot Attendant	9.69
Shuttle Bus Driver	13.67
Taxi Driver	10.06
Truckdriver, Heavy Truck	18.33
Truckdriver, Light Truck	13.67
Truckdriver, Medium Truck	14.40
Truckdriver, Tractor-Trailer	18.33

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: \$1.92 an hour or \$76.80 a week or \$332.80 a month.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 8 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

THE OCCUPATIONS WHICH HAVE PARENTHESES AFTER THEM RECEIVE THE FOLLOWING BENEFITS (as numbered):

1) Does not apply to employees employed in a bona fide executive, administrative, or professional capacity as defined and delineated in 29 CFR 541. (See CFR 4.156)

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3) WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard including working with or in close proximity to explosives and incendiary materials involved in research, testing, manufacturing, inspection, renovation, maintenance, and disposal. Such as: Screening, blending, dying, mixing, and pressing of sensitive explosives pyrotechnic compositions such as lead azide, black powder and photoflash power. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive explosives and incendiary materials. All operations involving regarding and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard. Including working with or in close proximity to explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation and, possibly adjacent employees, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used.

All operations involving, unloading, storage, and hauling of explosive and incendiary ordnance material other than small arms ammunition. (Distribution of raw nitroglycerine is covered under high degree hazard.)

**** UNIFORM ALLOWANCE ****

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of \$3.35 per week (or \$.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

**** NOTES APPLYING TO THIS WAGE DETERMINATION ****

Source of Occupational Title and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Third Supplement, dated March 1997, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job descriptions may also be obtained from the appropriate contracting officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

- 1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).
- 2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

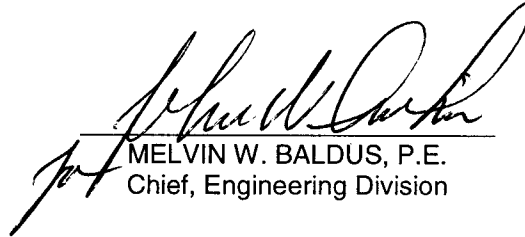
When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

&&&&&&&&&&



DESIGN AUTHENTICATION


This project was designed by the St. Louis District, U.S. Army Corps of Engineers. The initials or signatures and registration designations of individuals appear on these project documents within the scope of their employment as required by ER 1110-1-8152.



MELVIN W. BALDUS, P.E.
Chief, Engineering Division



BOBBY R. HUGHEY, P.E.
Chief, Design Branch



MICHAEL R. RECTOR, P.E.
Chief, Civil Engineering/
Specifications Section

BLANK PAGE

SECTION K Representations, Certifications and Other Statements of Offerors

CLAUSES INCORPORATED BY FULL TEXT

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contradictory to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as an agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(End of provision)

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

Common parent, as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

Taxpayer Identification Number (TIN), as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN:-----

___ TIN has been applied for.

___ TIN is not required because:

___ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

___ Offeror is an agency or instrumentality of a foreign government;

___ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

___ Sole proprietorship;

___ Partnership;

___ Corporate entity (not tax-exempt);

___ Corporate entity (tax-exempt);

___ Government entity (Federal, State, or local);

___ Foreign government;

___ International organization per 26 CFR 1.6049-4;

___ Other-----

(f) Common parent.

___ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

___ Name and TIN of common parent:

Name-----

TIN-----

(End of provision)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (MAR 1996)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals--

(A) Are [] are not [] presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have [] have not [], within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax

evasion, or receiving stolen property; and

(C) Are [] are not [] presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.

(ii) The Offeror has [] has not [], within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtedness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclose such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (OCT 2000)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 562910 [formerly SIC 8744].

(2) The small business size standard is 500 employees.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it () is, () is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it () is, () is not a small disadvantaged business concern as defined in 13 CFR 124-1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it () is, () is not a women-owned small business concern.

(c) Definitions. "Joint venture," for purposes of a small disadvantaged business (SDB) set-aside or price evaluation preference (as prescribed at 13 CFR 124.321), is a concern that is owned and controlled by one or more socially and economically disadvantaged individuals entering into a joint venture agreement with one or more business concerns and is considered to be affiliated for size purposes with such other concern(s). The combined annual receipts or employees of the concerns entering into the joint venture must meet the applicable size standard corresponding to the SIC code designated for the contract. The majority of the venture's earnings must accrue directly to the socially and economically disadvantaged individuals in the SDB concern(s) in the joint venture. The percentage of the ownership involvement in a joint venture by disadvantaged individuals must be at least 51 percent.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

"Small disadvantaged business concern," as used in this provision, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR Part 124.

"Women-owned small business concern," as used in this provision, means a small business concern--

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice. (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) ☐ It has, ☐ has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) ☐ It has, ☐ has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

52.222-25 AFFIRMATIVE ACTION COMPLIANCE (FEB 1984)

The offeror represents that

(a) ☐ it has developed and has on file, ☐ has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or

(b) ☐ has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

BLANK PAGE

SECTION L Instructions, Conditions and Notices to Bidders

CLAUSES INCORPORATED BY REFERENCE:

52.204-6	Data Universal Numbering System (DUNS) Number	JUN 1999
252.204-7001	Commercial And Government Entity (CAGE) Code Reporting	AUG 1999
252.204-7004	Required Central Contractor Registration	MAR 2000
52.215-16	Facilities Capital Cost of Money	OCT 1997
52.237-1	Site Visit	APR 1984

CLAUSES INCORPORATED BY FULL TEXT

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Firm Fixed Price contract resulting from this solicitation.

(End of clause)

CHANGES IN SPECIFICATIONS

The right is reserved, as the interest of the Government may require, to revise or amend the specifications and/or drawings prior to the date set for receipt of proposals. Such revisions and amendments, if any, will be announced by an amendment or amendments to the solicitation. Copies of such amendments as may be issued will be furnished to the prospective offeror. If the revisions and amendments are of a nature which require material changes in quantities, or prices bid, or both, the date set for receipt of proposals may be postponed by such number of days as in the opinion of the Contracting Officer will enable the offeror to revise their proposal. In such cases the amendment will include an announcement of the new date for receipt of proposals.

(End of Provision)

CLARIFICATION OF REQUIREMENT

Prospective offerors should carefully examine the solicitation and fully inform themselves as to the conditions and matters which can in any way affect the work or the cost thereof. Should a prospective offeror find discrepancies in, or omissions from, the solicitation or other documents, or should he/she be in doubt as to their meaning, he/she should at once notify Ms. Jo Ann C. Moritz, Area Code 314-331-8507, and obtain clarification prior to submitting a proposal.

(End of Provision)

BLANK PAGE